

92  
991  
E3  
M6  
1937

# Ministry of Public Works, Egypt, Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JANUARY, 1937

### The Weather

As in the previous month, the weather was abnormally cold. On the Mediterranean coast it was the coldest January since 1911.

At the beginning of the month a high pressure system was situated to the north, causing easterly winds to traverse Egypt, and the nights were very cold, especially on the 3rd and 4th, when the temperature fell below freezing point at many places in the Delta and elsewhere. At Tanta—2° C. was registered, and record low temperatures were established there and at Mansura and Zagazig. The grass minimum temperatures at Giza on 2nd, 3rd and 4th were—3°, —4°, —4°C.

On the 4th a depression was situated north of the Delta and cool northwest winds and showery weather prevailed. With rising pressure milder weather followed but from the 11th until the 19th Egypt was under the influence of depressions over the eastern Mediterranean, and the weather was mainly dull, cold, squally and showery. The wind velocity at Alexandria reached 80 kilometres per hour on the 12th and duststorms were experienced in Egypt during three days. Rain was heavy on the coast, 40 millimetres being collected at Alexandria in six days, while showers were widespread and hail fell in places. Day temperatures were 6° to 8° C. below the normal for the time of year. In Upper Egypt, freezing point was reached in the early morning of 15th at Qena and Luxor.

Anticyclonic conditions followed and were maintained until the 23rd, when a depression near Cyprus caused strong northwest winds in Egypt, with cool and showery weather. Conditions improved on the 26th when the depression had passed to Iraq. A continuous gradient of pressure extending from Egypt to western Europe resulted in a southerly breeze and mild weather until 31st, when the wind veered to west, with a sharp drop in temperature, and heavy showers occurred.

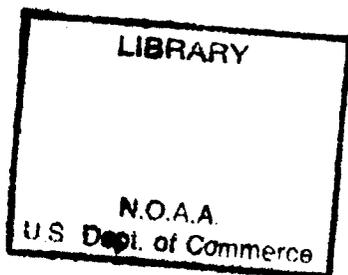
For the month as a whole the barometric pressure was everywhere above normal and temperature below. Rainfall was slightly above normal; at Alexandria there were 16 days of rain giving 61 millimetres; in Cairo rain fell on 10 days, but generally in very light or short showers and the total reached only 3 millimetres.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR JANUARY 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX. + MIN. 2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1019.8	+1.3	17.7	-0.6	9.1	-0.7	13.4	-0.6	38	+ 1
II. Lower Egypt ...	1020.4	+1.0	18.4	-1.5	5.3	-1.4	11.8	-1.4	15	+ 1
III. Middle Egypt ...	1020.9	+1.5	18.5	-0.5	6.4	-1.3	12.4	-0.9	3	- 2
IV. Upper Egypt ...	1021.5	+1.8	20.6	-0.7	5.0	-2.0	12.8	1.4	—	—
V. Western Desert ...	1022.7	+2.8	19.3	-1.9	3.8	-1.1	11.6	-1.5	—	—
VI. Red Sea (Egypt) ...	1019.9	+1.7	20.6	-1.1	9.5	-1.5	15.0	-1.3	0	0
*VII. Red Sea (Sudan) ...	1016.1	+0.5	25.1	-2.0	18.7	-1.2	21.9	-1.6	25	+ 18
VIII. North Sudan ...	1016.4	+1.1	27.5	-2.5	11.2	-1.8	19.4	-2.2	0	0
XI. Central Sudan ...	1014.6	+1.1	30.9	-2.1	12.2	-1.1	21.6	-1.6	0	0
X. South Sudan ...	1011.6	+0.6	35.2	-1.0	18.4	-0.1	26.8	-0.6	0	- 1

\* Port Sudan only.

L. J. SUTTON  
Director, Meteorological Service.



# **National Oceanic and Atmospheric Administration**

## **Environmental Data Rescue Program**

### **ERRATA NOTICE**

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages

Faded or light ink

Binding intrudes into the text

This document has been imaged through the NOAA Environmental Data Rescue Program. To view the original document, please contact the NOAA Central Library in Silver Spring, MD at (301) 713-2607 x124 or [www.reference@nodc.noaa.gov](mailto:www.reference@nodc.noaa.gov).

Information Manufacturing Corporation  
Imaging Subcontractor  
Rocket Center, West Virginia  
September 14, 1999

### State of the River

Lake Albert at Butiaba fell 11 centimetres during January. Its level on February 1, 1937 was 2 centimetres below the normal but 36 centimetres above that of the corresponding day of last year.

The Bahr el Jebel at Juba fell at normal rate during the month. The levels were below the normal but above those of last year.

The River Sobat at Nasser and the White Nile at Malakal both fell slower than normally, the levels throughout the month being considerably below both the normal and those of last year.

The Blue Nile at Roseires fell at normal rate, the levels being above normal but below last year's. At Khartoum also the Blue Nile fell normally, the levels being below both normal and those of last year, throughout the month.

The Main Nile at Kajarti fell faster than normally. The levels were below normal and much below those of last year.

The differences of the mean levels in January 1937 from those of January 1936 and from the normal for 1906-1935 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	January 1937 minus January 1936	January 1937 minus Normal
	Metres	Metres
Juba ... ..	+ 0·16	- 0·17
Nasser ... ..	- 0·43	- 0·77*
Malakal ... ..	- 0·50	- 0·64
Roseires ... ..	- 0·38	+ 0·40
Khartoum ... ..	- 0·47	- 0·22
Kajarti ... ..	- 0·64	- 0·38

\* Nasser normal is for 1922-1935 only.

**Discharges of the Nile during December, 1936**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b>			<b>Kajnarty (continued)</b>			<b>Hillet Sherif (Blue Nile)</b>			<b>Renk (White Nile)</b>		
(Main Nile)						(Old Sennar Gauge)					
4	73.65	1440	13	134.28	1560	2	11.08	534	2	11.64	1070
10	73.65	1550	14	134.25	1520	5	11.02	498	8	11.65	1050
16	72.87	1090	18	134.25	1520	7	10.98	481	13	11.60	998
26	72.73	1080	19	134.25	1520	9	10.91	456	18	11.53	993
31	72.73	1010	21	134.21	1480	12	10.83	420	22	11.43	920
Approx. Monthly Mean 1240			22	134.10	1480	14	10.74	379	25	11.35	892
Normal Mean 1933-1935 1350			23	134.18	1480	17	10.67	363	28	11.26	853
			24	134.18	1460	19	10.63	336	30	11.18	758
			26	134.19	1490	21	10.61	332	Approx. Monthly Mean 966		
			27	134.13	1500	23	10.58	319	Normal Mean 1928-1935 1170		
			29	134.06	1420	26	10.52	303			
			30	134.03	1420	28	10.48	302			
			31	134.03	1400	30	10.45	285			
			Approx. Monthly Mean 1570			Approx. Monthly Mean 388					
			Normal Mean 1912-1935 1770			Normal Mean 1912-1935 470					
<b>Aswân</b>			<b>River Atbara</b>			<b>Gezira Main Canal</b>			<b>Malakâl (White Nile)</b>		
(Measured by Sluices)			(300 mts. U.S. Bridge)			(Kilo. 1.3)					
(Aswân D.S. Gauge.)			(Kilo. 3 Gauge)								
1	86.92	1620	5	10.00	34	6	16.20	81	5	12.07	1030
2	86.92	1620	10	9.95	29	6	16.20	77	10	11.95	980
3	86.92	1620	14	9.91	25	22	16.19	75	16	11.73	906
4	86.92	1620	20	9.87	22	22	16.19	77	20	11.52	855
5	86.92	1620	25	9.78	18	Approx. Monthly Mean 76			25	11.28	755
6	86.91	1620	Approx. Monthly Mean 24			Normal Mean 1925-1935 59			30	11.05	728
7	86.91	1620	Normal Mean 1912-1935 17						Approx. Monthly Mean 895		
8	86.90	1620							Normal Mean 1912-1935 1120		
9	86.90	1620									
10	86.90	1620							<b>Hillet Doleib (River Sobât)</b>		
11	86.66	1450							8	13.28	565
12	86.50	1330							17	12.82	357
13	86.31	1210							25	12.36	245
14	86.27	1190							31	12.06	210
15	86.24	1170							Approx. Monthly Mean 406		
16	86.19	1150							Normal Mean 1912-1935 639		
17	86.17	1130									
18	86.15	1120							<b>River Sobât (At Head)</b>		
19	86.15	1120							(Nasser Gauge)		
20	86.15	1130							3	9.06	386
21	86.13	1120							13	7.94	299
22	86.12	1120							23	6.77	214
23	86.09	1100							26	6.56	168†
24	86.10	1100							27	6.46	179†
25	86.09	1100							28	6.40	173†
26	86.08	1100							29	6.32	161†
27	86.08	1100							30	6.27	151†
28	86.09	1100							31	6.22	151†
29	86.09	1100							Approx. Monthly Mean 273		
30	86.09	1100							Normal Mean 1929-1935 411		
31	86.10	1100									
Approx. Monthly Mean 1300											
Normal Mean 1912-1935 1460											
<b>Kajnarty (Main Nile)</b>			<b>Khartoum (Blue Nile)</b>			<b>Mogren (White Nile)</b>			<b>River Gila (At Mouth)</b>		
									(Gila Gauge)		
1	134.86	1800	2	11.57	397	1	11.82	1060	2	8.77	65
2	134.82	1790	7	11.65	516	6	11.83	932	12	8.11	67
5	134.62	1790	11	11.58	153	10	11.78	957	22	7.21	42
6	134.57	1630	17	11.59	384*	16	11.74	1020	Approx. Monthly Mean —		
7	134.53	1660	22	11.33	311*	21	11.49	955	Normal Mean 1929-1935 45		
8	134.53	1670	27	11.26	303*	26	11.53	986			
9	134.54	1650	Approx. Monthly Mean 385			Approx. Monthly Mean 976					
10	134.50	1650	Normal Mean 1912-1935 499			Normal Mean 1912-1935 1080					
11	134.42	1620									
12	134.37	1590									

\* Measured at 3 kms. U.S. Soba Gauge.

† Measured at Nasser.

**Discharges of the Nile during December, 1936 (contd.)**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>River Pibor (U. S. Gila Gauge)</b>			<b>Abu Tong (White Nile) (Tonga Gauge)</b>			<b>Bahr el Jebel (Kilo. 3) (Lake No Gauge)</b>			<b>Terrakekka (Bahr el Jebel)</b>		
		50	7	12.70	314				1	12.91	718
		36	21	12.45	346	4	13.97	307	13	12.87	682
		32	Approx. Monthly Mean 331			18	13.96	314	Approx. Monthly Mean 693		
		---	Normal Mean 1923-1935 295			Approx. Monthly Mean 313			Normal Mean 1931-1935 821		
		74	<b>Lake No (White Nile)</b>			<b>Gigging (Bahr el Jebel) (Western Channel)</b>			<b>Mongalla (Bahr el Jebel)</b>		
			4	13.97	309				1	11.50	717
			18	13.96	320	3	28.63	156	7	11.54	729
			Approx. Monthly Mean 318			15	28.60	142	13	11.46	699
			Normal Mean 1923-1935 295			Approx. Monthly Mean 147			19	11.47	699
			<b>Bahr el Ghazâl (At Mouth)</b>			Normal Mean 1931-1935 191			25	11.50	716
			4	13.96	11	<b>Gemeiza (Bahr el Jebel) (Eastern Channel)</b>			Approx. Monthly Mean 703		
			18	13.94	17	2	428.46	540	Normal Mean 1912-1935 818		
			Approx. Monthly Mean 14			14	428.43	546	<b>River Assua (D.S. Junction with River Atapi)</b>		
			Normal Mean 1923-1935 12			Approx. Monthly Mean 542			26	1.07	3
			<b>Bahr el Zerâf (Kilo. 3) (Gauge at Mouth)</b>			Normal Mean 1931-1935 624					
		149									
		150									
		149									
		150									

**Occasional Discharges**

(Observed by the Irrigation Department)

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading M.	Site	
<b>River Sobât and Tributaries</b>					
5-12-1936	Sobât	D.S. Khor Nyanding Junction ... ..	11.68	Nyanding Mouth	547
4-12-1936	"	" " " " " " " " " " " "	10.50	"	439
25-12-1936	"	" " " " " " " " " " " "	9.24	"	226
4-12-1936	Khor Twalor	Mouth ... ..	8.99	Nasser	27
4-12-1936	"	" " " " " " " " " " " "	7.84	"	19
24-12-1936	"	" " " " " " " " " " " "	6.70	"	3
3-12-1936	Khor Wakau	" " " " " " " " " " " "	9.04	"	83
23-12-1936	"	" " " " " " " " " " " "	7.92	"	48
23-12-1936	"	" " " " " " " " " " " "	6.76	"	13
1-12-1936	Khor Geni	" " " " " " " " " " " "	13.58	Akobo	7
11-12-1936	"	" " " " " " " " " " " "	12.96	"	7
21-12-1936	"	" " " " " " " " " " " "	12.08	"	7
1-12-1936	Akobo	" " " " " " " " " " " "	13.58	"	23
11-12-1936	"	" " " " " " " " " " " "	12.96	"	19
21-12-1936	"	" " " " " " " " " " " "	12.08	"	18
<b>White Nile and Tributaries</b>					
6-12-1936	Tonga Cut	Mouth ... ..	12.70	Tonga	0
20-12-1936	"	" " " " " " " " " " " "	12.48	"	9
6-12-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10 ... ..	12.70	"	302
20-12-1936	"	" " " " " " " " " " " "	12.48	"	335
6-12-1936	Khor Atar	Mouth ... ..	12.67	Fenikang	0
6-12-1936	Khor Yergol	" " " " " " " " " " " "	14.04	K. Yergol	0
6-12-1936	White Nile	U.S. Khor Yergol ... ..	14.04	"	303
20-12-1936	"	" " " " " " " " " " " "	13.92	"	323
5-12-1936	"	U.S. Maya Sinyora ... ..	13.97	Lake No	305
19-12-1936	"	" " " " " " " " " " " "	13.96	"	320
<b>Bahr el Zerâf</b>					
936	Zerâf	D.S. Tail Cut No. 2 ... ..	26.57	Pole 53	134
936	"	" " " " " " " " " " " "	26.54	"	132
936	"	U.S. Tail Cut No. 1 ... ..	28.20	T.C. 1	18
24-12-1936	"	" " " " " " " " " " " "	28.17	"	18
<b>Jebel-Zerâf Cuts</b>					
9-12-1936	Cut No. 2	Tail ... ..	26.57	Pole 53	12
24-12-1936	" 2	" " " " " " " " " " " "	26.54	"	14
9-12-1936	" 1	" " " " " " " " " " " "	28.20	T.C. 1	93
24-12-1936	" 1	" " " " " " " " " " " "	28.17	"	97
8-12-1936	" 2	Head ... ..	26.67	H.C. 2	16
23-12-1936	" 2	" " " " " " " " " " " "	26.64	"	17
8-12-1936	" 1	" " " " " " " " " " " "	11.92	H.C. 1	95
23-12-1936	" 1	" " " " " " " " " " " "	11.90	"	96
<b>Bahr el Jebel and Tributaries</b>					
11-12-1936	Jebel	D.S. Buffalo Cape ... ..	11.22	B. Cape	324
26-12-1936	"	" " " " " " " " " " " "	11.20	"	318
10-12-1936	"	D.S. Hillet Nuer ... ..	19.81	H. Nuer	340
25-12-1936	"	" " " " " " " " " " " "	10.80	"	341
8-12-1936	"	D.S. Tail of Peake's Channel ... ..	26.67	H.C. 2	368
23-12-1936	"	" " " " " " " " " " " "	26.64	"	365
8-12-1936	"	D.S. Head Cut No. 2 ... ..	26.67	"	259

**Occasional Discharges (contd.)**

*(Observed by the Irrigation Department)*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
<b>Bahr el Jebel and Tributaries (contd.)</b>					
		U.S. Head Cut No. 2	26.64	H.C. 2	257
		U.S. Head Cut No. 1	11.92	H.C. 1	380
		U.S. Head of Peake's Channel	11.91	" "	386
		D.S. Awai Tail 1 Gauge	12.00	Gh. el Inderab	500
		" "	11.98	" "	498
		" "	11.03	Awai T. 1	562
6-12-1936		At Awai Tail 3 Gauge	11.00	Pole 86	552
21-12-1936		" "	11.54	Awai Tail 3	535
5-12-1936		U.S. Awai Tail 1 Gauge	11.52	" "	520
20-12-1936		" "	11.03	Awai T. 1	201
3-12-1936		Kenisa " " " "	11.00	Pole 86	207
19-12-1936		" " " " " "	10.99	Kenisa	301
18-12-1936		" " " " " "	10.97	" "	301
2-12-1936		2 kms. U.S.R.P. 104...	10.97	" "	350
17-12-1936		U.S. Atem Heads 2 A, B, C and D	11.14	Pole 114	515
2-12-1936		" " " " " "	11.10	" "	507
17-12-1936		D.S. Lake Papiu " " " "	11.26	Lake Papiu	356
2-12-1936	Lake Papiu	Mouth " " " " " "	11.15	" "	350
17-12-1936	"	" " " " " "	11.26	" "	175
2-12-1936	Jebel	U.S. Lake Papiu " " " "	11.15	" "	161
17-12-1936	"	" " " " " "	11.26	" "	188
1-12-1936	"	Bor " " " " " "	11.15	" "	187
16-12-1936	"	" " " " " "	10.93	Bor	639
1-12-1936	Khor Unyam Kojie	Mouth " " " " " "	10.88	" "	522
16-12-1936	"	" " " " " "	10.93	" "	443
	"	" " " " " "	10.88	" "	442

P. PHILLIPS

*Director, Hydrological Service*

# Ministry of Public Works, Egypt, Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR FEBRUARY, 1937

### The Weather

Unusually mild practically throughout the month.

On the 3rd a depression was approaching from the west, causing warm southerly winds. By the 5th the depression was situated north of the Delta, the winds became westerly and the weather cooler, with light scattered showers. Southerly winds followed and on the 11th the temperature in Cairo reached 27° C.

On the 15th a depression was centred off Benghazi, with a secondary west of Siwa Oasis. Their approach gave rise to strong southerly winds and local sand-storms in Egypt, followed by heavy rain in coastal regions. At Salum and Boseili 18 mms. were recorded, while there was a thunder-storm with hail near Alexandria. Showery weather was experienced in Upper Egypt on the 17th.

Conditions were very disturbed on the 21st. In the morning there was a small local depression near Matruh, and in the late afternoon Cairo was subjected to a severe line dust-storm with a westerly gale, during which visibility was reduced to a few metres. The dust-storm rapidly passed, and was followed by light rain. Showers were widespread. At Anria, however, a rain storm of exceptional violence occurred, and 41 mms. were recorded. Severe dust-storms, followed in many cases by heavy showers of rain, were reported also in Upper Egypt.

Settled weather, with winds chiefly from the northeast, followed and was maintained until the end of the month.

For the month as a whole the barometric pressure was below normal, and temperature above, throughout Egypt and the Sudan. Rainfall was much below normal.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR FEBRUARY 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1016·0	-1·0	21·3	+2·4	11·4	+1·2	16·4	+1·8	12	- 13
II. Lower Egypt ...	1016·5	-0·7	22·7	+2·3	7·3	+0·5	15·0	+1·4	4	- 9
III. Middle Egypt ...	1016·6	-1·2	22·5	+2·0	8·9	+0·7	15·7	+1·4	1	- 2
IV. Upper Egypt ...	1016·9	-1·2	24·9	+1·6	8·2	+0·4	16·6	+1·0	2	-
V. Western Desert ...	1017·6	-0·7	24·0	+0·7	6·1	+0·2	15·0	+0·4	3	-
VI. Red Sea (Egypt) ...	1015·8	-0·7	23·5	+1·3	11·5	+0·4	17·5	+0·8	3	+ 3
*VII. Red Sea (Sudan) ...	1013·6	-1·1	26·2	-1·0	19·6	+0·5	22·9	-0·2	0	- 3
VIII. North Sudan ...	1013·4	-0·7	31·0	-0·8	14·7	+1·0	22·8	+0·1	0	0
XI. Central Sudan ...	1011·5	-0·8	34·8	+0·2	17·1	+2·8	26·0	+1·5	0	0
X. South Sudan ...	1009·8	-0·3	37·8	+0·5	21·4	+1·6	29·6	+1·0	14	+ 6

\* Port Sudan only.

L. J. SUTTON

Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba fell 5 cms. during the month. Its level on March 1, 1937, was 4 cms. above the normal and 27 cms. above that of the corresponding day of last year.

The Bahr el Jebel at Juba remained almost steady throughout the month. The levels were below the normal but above those of last year.

The River Sobat at Nasser fell gradually during the first fortnight, then rose gradually until the 26th and fell again thereafter. On the average the levels were about normal but considerably below last year's.

The White Nile at Malakal fell slower than normally, the level which was 44 cms. below normal at the beginning of the month being only 13 cms. below it at the end. On the average the levels were about 30 cms. below last year's.

The Blue Nile at Roseires fell normally for the first half of the month, then rose slightly for a few days and fell again thereafter. The levels were on the average about half a metre above normal but about half a metre lower than those of last year. At Khartoum the Blue Nile fluctuated slightly, the levels being below both the normal and last year's.

The Main Nile at Kajarti fell at about normal rate, the levels being much below both the normal and last year's during the whole month.

The differences of the mean levels in February 1937 from those of February 1936 and from the normal for 1906-1935 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	February 1937 minus February 1936	February 1937 minus Normal
	Metres	Metres
Juba ... ..	+ 0·17	— 0·12
Nasser ... ..	— 0·63	— 0·03*
Malakal ... ..	— 0·32	— 0·28
Roseires ... ..	— 0·46	+ 0·46
Khartoum ... ..	— 0·36	— 0·18
Kajarti ... ..	— 0·66	— 0·52

\* Nasser normal is for 1922-1935 only.

**Discharges of the Nile during January, 1937**

*Observed by the Irrigation Department*

Day of month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Aswân (D.S. Barrage)</b>			<b>Kajnarty (continued)</b>			<b>Gezira Main Canal</b>			<b>Malakâl (White Nile)</b>		
(Main Nile)						(Kilo. 1.3)					
11	72.70	979	24	133.22	1080	7	15.81	58	5	10.82	675
15	72.70	990	25	133.18	1050	7	15.81	61	10	10.69	635
Approx. Monthly Mean 990			26	133.09	1050	21	15.78	60	15	10.61	611
Normal Mean 1933-1936 1220			27	133.03	1030	21	15.78	58	20	10.51	584
<b>Aswân</b>			28	133.00	989	Approx. Monthly Mean 60			25	10.40	568
Measured by Sluices)			29	132.97	998	Normal Mean 1926-1936 47			30	10.36	565
(Aswân D.S. Gauge)			Approx. Monthly Mean 1180			Approx. Monthly Mean 60			Approx. Monthly Mean 615		
1	86.10	1100	Normal Mean 1912-1936 1360			Normal Mean 1926-1936 47			Normal Mean 1912-1936 816		
2	86.10	1100	<b>Hassanâb (Main Nile)</b>			<b>Roseires (Blue Nile)</b>			<b>Hillet Doleib (River Sobât)</b>		
3	86.09	1100									
4	86.09	1100	8	11.33	1160	2	12.80	374	8	11.80	165
5	86.09	1100	11	11.25	1110	4	12.76	370	25	11.46	96
6	86.08	1100	18	11.09	925	6	12.72	369	31	11.38	91
7	86.08	1100	22	11.06	957	8	12.70	355	Approx. Monthly Mean 136		
8	86.09	1100	25	11.02	897	10	12.67	346	Normal Mean 1912-1936 313		
9	86.08	1100	30	10.87	837	12	12.62	330	<b>Nasser (River Sobât)</b>		
10	86.08	1100	Approx. Monthly Mean 1020			14	12.58	319	2	6.12	140
11	86.07	1100	Normal Mean 1912-1936 1220			16	12.53	309	3	6.08	139
12	86.07	1100	<b>Tamaniât (Main Nile)</b>			18	12.50	299	4	6.04	138
13	86.07	1100				18	12.50	302	5	5.98	130
14	86.07	1100	4	10.96	1210	20	12.46	291	6	5.94	128
15	86.06	1100	7	10.83	1090	22	12.42	283	9	5.92	119
16	86.06	1100	14	10.64	947	24	12.39	273	11	5.90	125
17	86.07	1100	18	10.58	952	26	12.37	256	11	5.86	122
18	86.07	1100	21	10.55	937	28	12.32	242	1	5.82	116
19	86.07	1100	26	10.39	817	30	12.31	233	13	5.78	113
20	86.07	1100	Approx. Monthly Mean 976			Approx. Monthly Mean 310			14	5.72	105
21	86.07	1100	Normal Mean 1912-1936 1200			Normal Mean 1912-1936 289			16	5.66	98
22	86.07	1100	<b>Soba (Blue Nile)</b>			<b>Mogren (White Nile)</b>			17	5.62	97
23	86.06	1100							18	5.58	99
24	86.06	1100	3	10.68	273	2	11.34	900	19	5.52	92
25	86.06	1100	6	10.60	299	5	11.28	855	20	5.50	90
26	86.05	1100	12	10.49	270	13	10.98	718	21	5.49	90
27	86.05	1100	16	10.40	228	17	10.94	695	23	5.44	87
28	86.05	1100	19	10.31	208	20	10.91	710	24	5.42	86
29	86.05	1100	24	10.18	181	25	10.77	668	25	5.42	87
30	86.05	1100	28	10.08	188	Approx. Monthly Mean 733			26	5.42	88
31	86.06	1100	Approx. Monthly Mean 234			Normal Mean 1912-1936 921			27	5.41	87
Approx. Monthly Mean 1100			<b>Hillet Sherif (Blue Nile)</b>			<b>Renk (White Nile)</b>			28	5.41	86
Normal Mean 1912-1936 1140			(Old Sennar Gauge)						30	5.40	88
<b>Kajnarty (Main Nile)</b>									31	5.38	86
2	133.97	1370	2	10.40	268	1	11.09	780	Approx. Monthly Mean 107		
4	133.81	1320	4	10.38	264	3	11.02	763	Normal Mean 1929-1936 179		
6	133.75	1230	6	10.35	257	5	10.96	700	<b>Bahr el Zerâf (Kilo. 3)</b>		
9	133.71	1290	9	10.31	246	7	10.88	691	(Gauge at Mouth)		
10	133.68	1280	11	10.27	231	9	10.80	677	7	11.79	147
11	133.64	1290	13	10.25	226	11	10.74	651	21	11.66	145
12	133.59	1260	16	10.18	202	14	10.68	630	Approx. Monthly Mean 146		
13	133.53	1240	18	10.13	193	16	10.62	607	Normal Mean 1912-1936 155		
14	133.49	1190	20	10.09	183	18	10.56	580			
17	133.49	1190	23	10.07	176	20	10.52	598			
18	133.48	1180	25	10.06	175	24	10.48	587			
19	133.41	1160	27	10.05	171	27	10.41	555			
20	133.35	1140	30	9.99	159	30	10.36	571			
21	133.30	1130	Approx. Monthly Mean 211			Approx. Monthly Mean 633					
22	133.28	1080	Normal Mean 1912-1936 243			Normal Mean 1928-1936 912					

**Discharges of the Nile during January, 1937 (contd.)**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> p.s.
<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			<b>Terrakekka (Bahr el Jebel)</b>		
7	12.08	344	4	13.86	320	1	12.86	693
21	11.96	344	18	13.77	323	13	12.78	660
Approx. Monthly Mean 343			Approx. Monthly Mean 323			Approx. Monthly Mean 655		
Normal Mean 1923-1936 326			Normal Mean 1923-1936 295			Normal Mean 1931-1936 764		
<b>Lake No (White Nile)</b>			<b>Gigging (Bahr el Jebel)</b> (Western Channel)			<b>Mongalla (Bahr el Jebel)</b>		
4	13.86	331	3	28.61	148	1	11.46	698
18	13.77	339	15	28.51	140	7	11.42	680
Approx. Monthly Mean 337			Approx. Monthly Mean 142			13	11.39	684
Normal Mean 1923-1936 307			Normal Mean 1931-1936 172			19	11.35	661
<b>Bahr el Ghazâl</b> (At Mouth) (Suddite Factory Gauge)			<b>Gemeiza (Bahr el Jebel)</b> (Eastern Channel)			25	11.33	660
4	13.86	14	2	428.42	536	Approx. Monthly Mean 673		
18	13.79	17	14	428.34	524	Normal Mean 1912-1936 742		
Approx. Monthly Mean 16			Approx. Monthly Mean 522			<b>Nimule (Bahr el Jebel)</b>		
Normal Mean 1923-1936 17			Normal Mean 1931-1936 582			20-12-36	10.39	681
						21-21-36	10.41	676
						22-21-36	10.39	691
						23-21-36	10.39	689
						24-21-36	10.38	685
						25-21-36	10.38	700





**Occasional Discharges (contd)**

*Observed by the Irrigation Department*

DATE	RIVER	SITE	GAUGE		Disch. m <sup>3</sup> . per
			Reading	Site	
<b>Spills on the Bahr el Jebel (contd)</b>					
28-11-1936	Spill Out on L. bank (Bahr el Jebel)	Between kilos 629 & 630	10.94	Bor	—4
28-11-1936	"	Three Spills Out between K. 635 & 639	10.94	"	—2
28-11-1936	"	Between kilos 641 & 642	20.51	Malek	—3
28-11-1936	"	"	20.51	"	—2
28-11-1936	"	Three Spills Out between K. 647 & 649	20.51	"	—2
29-11-1936	"	Aliab Head 1	11.41	Tombé	—1
29-11-1936	"	Between kilos 674 & 675	11.41	"	—0
29-11-1936	"	"	11.41	"	—11
28-12-1936	"	2 kilos U.S. R.P. 112	11.12	L. Papiu	—3
28-12-1936	"	1 kilo D.S. " 113	11.08	R.P. 113	—10
29-12-1936	"	0.5 " D.S. R.P. 116	"	"	—21
29-12-1936	"	2.1 kilos U.S. " 117	"	"	—12
29-12-1936	"	2.4 " " 117	"	"	—3
29-12-1936	"	2.5 " " 117	"	"	—10
29-12-1936	"	2.6 " " 117	"	"	—4
29-12-1936	"	300 mts. D.S. R.P. 121	10.88	Bor	—11
30-12-1936	"	2 kilos D.S. R.P. 123	10.88	"	—5
30-12-1936	"	9.5 " U.S. Bor	10.88	"	—1
31-12-1936	"	300 mts. " Malek	20.43	Malek	—1
31-12-1936	"	400 " " "	20.43	"	—3
31-12-1936	"	Aliab Head 1, 4 kms. D.S. Tombé	10.85	Tombé	—0
1-12-1936	Atem No. 1	D.S. R.P. 118	11.14	R.P. 114	—27
1-12-1936	Spill Out on R. bank (Bahr el Jebel)	3 Spills Out, between kilos 593 & 599	10.93	Bor	—2
1-12-1936	"	2 " " " 600 & 601	10.93	"	—9
1-12-1936	"	5 " " " 605 & 607	10.93	"	—6
1-12-1936	"	2 " " " 612 & 613	10.93	"	—4
29-11-1936	Bahr el Jebel	About kilo 651	10.94	"	706

**P. PHILLIPS**

*Director, Hydrological Service*

# Ministry of Public Works, Egypt, Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR MARCH, 1937

### The Weather

Very mild.

A deep depression situated over Greece at the beginning of the month caused southerly winds and warm weather in Egypt. During its passage eastwards winds of gale force, with severe sandstorms, were experienced, especially in the Western desert, and in places visibility was less than 50 metres. At Alexandria the wind velocity reached 70 kilometres per hour.

On the 7th a small depression passed along the coast of the Delta giving rise to warm southerly winds. During the fairly severe dust storm which occurred in Cairo in the afternoon, the rare phenomenon of a pale-blue sun was observed. Cool northerly winds and light showers followed the passage of this depression.

The weather was warm on the 10th and 11th, with a temperature of 30° C. in Cairo, but a week of cool weather followed, with winds mainly from the north.

With the formation of high pressure over the Mediterranean coast fresh easterly winds prevailed, and the temperature rose rapidly, reaching 32° C (90° F) in Cairo on the 21st. The spell of warm weather was maintained with little change until the 27th, when cool northerly winds reached Egypt from the Aegean, causing an abrupt fall in temperature. In Cairo the maximum on the 26th was 32° C, while on the following day it was only 25° (77° F).

For the month as a whole the mean atmospheric pressure was above normal in Egypt and below in the Sudan.

The temperature was above normal except in the northern and central Sudan. The relative humidity was seven per cent above normal in Alexandria and Cairo.

Rainfall in Egypt was almost negligible.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR MARCH 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX. + MIN. 2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1017.2	+1.3	22.1	+1.3	13.4	+1.3	17.8	+1.3	0	-11
II. Lower Egypt ...	1017.2	+1.0	25.4	+1.3	9.2	+0.3	17.3	+0.8	1	-5
III. Middle Egypt ...	1016.9	+0.6	26.1	+2.0	11.0	+0.5	18.6	+1.2	0	-4
IV. Upper Egypt ...	1015.6	-0.2	29.5	+1.5	11.6	+0.7	20.6	+1.1	0	-
V. Western Desert ...	1016.9	+0.6	28.5	+0.7	(1)11.5	+1.0	20.0	+0.9	0	-
VI. Red Sea (Egypt) ...	1014.4	-0.2	25.9	+0.9	14.8	+0.8	20.4	+0.8	0	0
VII. Red Sea (Sudan)(2)...	1011.9	-1.1	28.6	-0.1	20.5	+0.8	24.6	+0.4	0	-1
VIII. North Sudan ...	1011.1	-0.6	35.0	-0.8	16.7	-0.2	25.8	-0.5	0	0
XI. Central Sudan ...	1009.0	-0.8	37.7	+0.1	16.9	-0.3	27.3	-0.1	2	+1
X. South Sudan(2)...	1010.4	-0.9	38.7	+0.7	21.7	+0.3	30.2	+0.5	13	-9

(1) Kharga and dakhla only.

(2) Port Sudan only.

(3) Juba only.

L. J. SUTTON

Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba fell 2 centimetres during the month. Its level on April 1st, 1937 was 11 centimetres above the normal and 27 centimetres above that of the corresponding day of last year.

With the exception of a flush on the 14th, the Bahr el Jebel at Juba remained almost steady the levels being below normal during the whole month and practically the same as those of last year.

The River Sobat at Nasser fell throughout the month. The levels were above the normal during the first eleven days and below it thereafter and below last year's throughout.

The White Nile at Malakal fell at about normal rate the levels being identical with the normal for the first half of the month and a few centimetres below it afterwards but below last year's levels throughout.

The Blue Nile at Roseires remained almost steady for the first ten days of the month and fell afterwards. The levels were above normal, but below those of last year. At Khartoum the Blue Nile fluctuated about normal for the first twenty days and then fell slightly. The levels were below last year's during the whole month.

The Main Nile at Kajarti fell slightly during the month the level which was 46 centimetres below normal at the beginning being only 10 centimetres below it at the end.

The differences of the mean levels in March 1937 from those of March 1936 and from the normal 1906-1935 were :

STATION	MEAN DIFFERENCES OF LEVELS	
	March 1937 minus March 1936	March 1937 minus Normal
	Metres	Metres
Juba ... ..	+ 0.03	- 0.15
Nasser ... ..	- 0.19	- 0.10*
Malakal ... ..	- 0.13	- 0.12
Roseires ... ..	- 0.25	+ 0.38
Khartoum ... ..	- 0.24	- 0.06
Kajarti ... ..	- 0.56	- 0.33

\* Nasser normal is for 1922-1925 only.

Discharges of the Nile during February, 1937

Observed by the Irrigation Department

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b>			<b>Kajnarty (continued)</b>			<b>Roseires (Blue Nile)</b>			<b>Nasser (River Sobât)</b>		
(Main Nile)			25	132.16	696	1	12.28	226	1	5.36	84
7	72.66	890	26	132.14	679	4	12.25	212	2	5.35	82
11	72.30	783	Approx. Monthly Mean 785			6	12.22	207	3	5.32	81
18	72.21	740	Normal Mean 1912-1936 987			8	12.20	201	4	5.32	82
28	72.22	791	<b>Hassanâb (Main Nile)</b>			10	12.16	196	6	5.36	85
Approx. Monthly Mean 807			7	10.81	780	12	12.12	188	7	5.36	84
Normal Mean 1933-1936 1130			12	10.71	757	12	12.12	182	8	5.30	79
<b>Aswân</b>			15	10.71	726	14	12.10	184	9	5.28	78
(Measure by Sluices)			19	10.66	688	16	12.12	188	10	5.27	76
(Aswân D.S. Gauge)			22	10.62	687	18	12.16	194	11	5.26	77
1	85.04	1100	28	10.60	647	20	12.20	207	13	5.22	71
2	85.04	1100	Approx. Monthly Mean 732			22	12.18	199	14	5.19	70
3	85.08	1120	Normal Mean 1912-1936 884			24	12.13	192	15	5.18	68
4	86.08	1120	<b>Tamaniât (Main Nile)</b>			26	12.09	186	16	5.18	70
5	86.04	1100	3	10.22	768	28	12.03	173	17	5.23	75
6	85.98	1070	8	10.14	682	Approx. Monthly Mean 197			18	5.23	75
7	85.91	1030	11	10.15	751	Normal Mean 1912-1936 191			20	5.28	80
8	85.82	975	15	10.10	659	<b>Mogren (White Nile)</b>			23	5.28	81
9	85.70	917	18	10.02	617	2	10.56	564	24	5.30	78
10	85.56	891	24	10.02	622	7	10.52	557	25	5.32	77
11	85.62	869	Approx. Monthly Mean 681			10	10.54	583	27	5.26	76
12	85.62	868	Normal Mean 1912-1936 870			14	10.42	528	28	5.22	74
13	85.62	867	<b>Soba (Blue Nile)</b>			17	10.36	493	Approx. Monthly Mean 78		
14	85.62	870	1	10.04	178	23	10.35	500	Normal Mean 1929-1936 92		
15	85.61	870	6	9.95	162	Approx. Monthly Mean 530			<b>Bahr el Zerâf (Kilo. 3)</b>		
16	85.60	870	9	9.92	156	Normal Mean 1912-1936 645			(Gauge at Mouth)		
17	85.60	869	13	9.90	159	<b>Renk (White Nile)</b>			7	11.54	144
18	85.59	868	16	9.87	159	4	10.34	556	16	11.52	146
19	85.59	867	22	9.84	138	9	10.32	523	Approx. Monthly Mean 143		
20	85.59	868	Approx. Monthly Mean 160			12	10.27	544	Normal Mean 1912-1936 148		
21	85.60	869	Normal Mean 1912-1936 172			17	10.28	536	D.S. Tail Cut No. 2		
22	85.60	868	<b>Hillet Sherif (Blue Nile)</b>			22	10.25	519	(Gauge at Pole 53)		
23	85.60	871	(Old Sennar Gauge)			25	10.22	515	9	26.44	121
24	85.60	870	1	9.96	148	Approx. Monthly Mean 534			27	26.40	114
25	85.60	869	3	9.96	155	Normal Mean 1928-1933 653			Approx. Monthly Mean 119		
26	85.60	870	6	9.96	154	<b>Malakâl (White Nile)</b>			Normal Mean 1927-1932 138		
27	85.60	868	8	9.96	156	5	10.31	552	<b>Jebel-Zerâf Cuts</b>		
28	85.60	870	10	9.96	154	10	10.28	554	(Tail Cut No. 2)		
Approx. Monthly Mean 931			13	9.93	146	15	10.25	554	(Head cut No. 2 Gauge)		
Normal Mean 1912-1936 957			15	9.92	147	20	10.22	524	9	26.56	16
<b>Kajarty (Main Nile)</b>			17	9.92	147	25	10.23	540	27	26.52	18
1	132.89	966	20	9.92	146	Approx. Monthly Mean 546			Approx. Monthly Mean 17		
4	132.80	937	23	10.12	199	Normal Mean 1912-1936 649			Normal Mean 1927-1932 25		
5	132.78	934	25	10.12	200	<b>Hillet Doleib (River Sobât)</b>			Tail Cut No. 1		
6	132.76	917	27	10.11	198	8	11.32	90	9	28.04	103
7	132.71	907	Approx. Monthly Mean 162			10	11.32	75	27	27.97	106
8	132.65	865	Normal Mean 1912-1936 179			17	11.24	64	Approx. Monthly Mean 104		
9	132.58	807	<b>Gezira Main Canal</b>			25	11.27	82	Normal Mean 1927-1936 83		
10	132.53	773	(Kilo. 1.3)			Approx. Monthly Mean 78			<b>Bahr el Zerâf</b>		
11	132.51	790	9	15.77	55	Normal Mean 1912-1936 170			(U.S. Tail Cut No. 1)		
12	132.51	779	9	15.77	57	<b>Hillet Doleib (River Sobât)</b>			9	28.04	40
15	132.39	758	16	15.78	58	8	11.32	90	27	27.97	19
16	132.34	734	16	15.78	57	10	11.32	75	Approx. Monthly Mean 31		
17	132.32	715	Approx. Monthly Mean 57			17	11.24	64	Normal Mean 1927-1936 23		
19	132.32	720	Normal Mean 1926-1936 48			25	11.27	82	Approx. Monthly Mean 104		
24	132.18	686				Approx. Monthly Mean 78			Normal Mean 1927-1936 23		
						Normal Mean 1912-1936 170					

Discharges of the Nile during February, 1937 (contd.)

Observed by the Irrigation Department

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>Bahr el Jebel (contd.)</b> Hillet Nuer			<b>Bahr el Jebel (contd.)</b> D.S. Awai Tail <sup>1</sup>			<b>Bahr el Jebel (contd.)</b> U.S. Lake Papiu		
7	11.85	338	10	10.74	333	5	10.89	510			
16	11.81	343	28	10.70	327	20	10.87	510	2	10.98	171
Approx. Monthly Mean 338			Approx. Monthly Mean 332			Approx. Monthly Mean 512			17	11.01	179
Normal Mean 1923-1936 326									Approx. Monthly Mean 177		
<b>Tonga Cut (Mouth)</b>			D.S. Tail of Peake's Channel (Head Cut No. 2 Gauge)			Awai Tail <sup>3</sup>			Bor		
15	11.81	-8	8	26.56	348	6	11.46	503	1	10.70	590
Approx. Monthly Mean -6			26	26.52	346	21	11.44	499	16	10.78	608
			Approx. Monthly Mean 348			Approx. Monthly Mean 501			Approx. Monthly Mean 598		
<b>White Nile</b> (U.S. Barboi Head) (Tonga Gauge)			U.S. Head of Peake's Channel (Ghabet El-Inderab Gauge)			U.S. Awai Tail <sup>1</sup>			Normal Mean 1912-1936 588		
6	11.85	339	7	11.94	479	5	10.89	193			
15	11.81	333	25	11.91	491	20	10.87	197			
Approx. Monthly Mean 336			Approx. Monthly Mean 485			Approx. Monthly Mean 195					
<b>U.S. Khor Yergol</b>			D.S. Head Cut No. 2			River Atem (Western Channel) Jonglei Site 3			Khor Unyam Kojie (Mouth) (Bor Gauge)		
6	13.51	340	8	26.56	243	3	8.26	91	1	10.70	-74
15	13.46	235	26	26.52	251	18	8.29	87	16	10.78	-77
Approx. Monthly Mean 337			Approx. Monthly Mean 247			Approx. Monthly Mean 88			Approx. Monthly Mean -75		
			Normal Mean 1927-1936 234						Normal Mean 1925-1936 -74		
<b>U.S. Maya Sinyora</b>			<b>Jebel-Zerâf Cuts</b> (Head Cut No. 2)			Eastern Channel Jonglei Site 4			<b>Bahr el Jebel</b> Gigging (Western Channel)		
5	13.74	338	8	26.56	19	3	8.26	182	3	28.46	138
14	13.71	343	26	26.52	21	18	8.29	185	15	28.54	142
Approx. Monthly Mean 340			Approx. Monthly Mean 20			Approx. Monthly Mean 184			Approx. Monthly Mean 139		
			Normal Mean 1927-1936 234						Normal Mean 1931-1936 138		
<b>Lake No</b>						<b>Bahr el Jebel</b> (U. S. R. P. 114)			Gemeiza (Eastern Channel)		
4	13.74	343				2	11.00	466	2	428.28	504
13	13.69	314				17	11.02	471	14	428.34	531
28	13.67	362				Approx. Monthly Mean 470			Approx. Monthly Mean 519		
Approx. Monthly Mean 336									Normal Mean 1931-1936 557		
Normal Mean 1923-1936 319											
<b>Bahr el Ghazâl</b> (At Mouth) (Suddite Factory Gauge)			Head Cut No. 1			Kenisa			Terrakekka		
4	13.75	17	8	11.83	104	4	10.88	284	1	12.71	620
13	13.71	12	26	11.80	105	19	10.88	283	13	12.78	655
28	13.69	21	Approx. Monthly Mean 104			Approx. Monthly Mean 284			Approx. Monthly Mean 612		
Approx. Monthly Mean 16			Normal Mean 1927-1936 86						Normal Mean 1931-1936 720		
Normal Mean 1923-1936 19											
<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			<b>Bahr el Jebel</b> (U.S. Head Cut No. 1)			D.S. Lake Papiu			Mongalla		
4	13.74	327	7	11.83	383	2	10.98	316	1	11.33	657
13	13.69	322	26	11.80	380	17	11.01	315	7	11.42	696
28	13.67	327	Approx. Monthly Mean 382			Approx. Monthly Mean 314			13	11.38	688
Approx. Monthly Mean 325			Normal Mean 1927-1936 356						19	11.34	660
Normal Mean 1923-1936 303									25	11.32	656
									Approx. Monthly Mean 672		
									Normal Mean 1912-1936 693		

CORRECTION.—Hillet Nuer discharge on January 25th, published last month should read 344 and not 44.



# Ministry of Public Works, Egypt, Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR APRIL, 1937

### The Weather

Changeable, with five heat waves, and a spell of abnormally cool, rainy weather.

At the beginning of the month a depression over the Central Mediterranean with a secondary off Salum caused warm southerly winds in Egypt. With the passage of these depressions the weather became cooler, but by the 6th a depression situated near Crete again gave rise to warm southerly winds. Its passage was associated with that of a depression from the desert west of Aswan, and the weather became unusually cool and unsettled for the time of year. Heavy rain fell throughout Lower Egypt, accompanied in Cairo, Port Said and other places by thunderstorms, and showers occurred even as far south as the Northern Sudan. On the 9th 26 millimeters were registered at Mersa Matruh, a record for any day in April since observations began in 1920, while in three successive days 39 millimeters were recorded there, against a normal value of 4 millimeters for the whole month. At Tanta 18 millimeters and in Cairo 7 millimeters were measured on that day. The maximum temperature in Cairo on the 10th was only 20°C (68°F), the coolest April day for eight years.

The weather then rapidly became much warmer, and on the 15th, when a depression was passing along the coast of Egypt, the temperature generally in Lower Egypt reached 38°C (100°F). The arrival of the cold front of this depression on the following day was marked by winds of gale force and duststorms; a velocity of 79 kilometres per hour was recorded at Helwan.

After three days of cool weather, two further heat waves were experienced, but they were not so pronounced as the previous one. Thick mists occurred on the morning of the 28th in Cairo and several places in the Delta and the Canal Zone.

For the month as a whole the barometric pressure was below normal and the temperature every where above normal. Although there were only three or four rainy days, the amount received was two to three times the normal total for the month at stations throughout Egypt. In the Sudan rainfall was above normal in the north, and normal in the south.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR APRIL, 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1013.9	-0.3	24.6	+1.3	15.2	+0.8	19.9	+1.0	12	+ 8
II. Lower Egypt ...	1013.9	-1.0	28.8	+0.9	12.6	+1.1	20.7	+1.0	16	+11
III. Middle Egypt ...	1013.7	-0.7	29.6	+1.3	14.4	+1.2	22.0	+1.2	4	+ 2
IV. Upper Egypt ...	1013.0	-0.7	33.5	+0.8	15.6	+0.7	24.6	+0.8	0	—
V. Western Desert ...	1013.9	-0.0	32.5	+0.2	14.0	+0.4	23.2	+0.3	0	—
VI. Red Sea (Egypt) ...	1011.9	-0.5	29.1	+1.1	17.8	+0.7	23.4	+0.9	0	0
*VII. Red Sea (Sudan) ...	1010.5	-0.6	31.7	+0.2	22.8	+1.4	27.2	+0.8	0	- 1
VIII. North Sudan ...	1008.7	-0.7	39.2	-0.3	21.2	+0.7	30.2	+0.2	11	+10
XI. Central Sudan ...	1007.5	-0.6	40.7	+0.6	21.3	+1.0	31.0	+0.8	3	- 1
X. South Sudan ...	1009.4	+0.1	37.2	+0.0	23.3	+0.9	30.2	+0.4	68	0

\* Port Sudan only.

L. J. SUTTON  
Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba rose 11 cms. during the month. Its level on May 1st 1937 was 23 centimeters above the normal and 27 centimeters above that of the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated with a general upward tendency having prominent peaks on th the 9th and 28th 65 and 60 centimeters respectively above normal. The levels were above last year's throughout the month.

The River Sobat at Nasser fell slightly for the first half of the month, then rose sharply for four days and afterwards remained practically steady. The levels were continuously below both the normal and those of last year.

The White Nile at Malakal fell slightly until the 20th and afterwards rose a little. The levels throughout the month were below both the normal and last year's.

The Blue Nile at Roseires which was 29 centimeters above normal at the beginning of the month was 15 centimeters below normal at the end. The levels which were continuously below last year's fell until the 16th then rose for two days and fell again thereafter. At Khartoum the Blue Nile fell slightly during the month, the levels fluctuating below both the normal and last year's.

The Main Nile at Kajarti fell with minor fluctuations during the month. The levels were below both the normal and last year's.

The differences of the mean levels in April 1937 from those of April 1936 and from the normal 1906-1935 were :

STATION	MEAN DIFFERENCES OF LEVELS	
	April 1937 minus April 1936	April 1937 minus Normal
	Metres	Metres
Juba ... ..	<del>+ 0.18</del> <b>+ 0.16</b>	<del>- 0.08</del> <b>- 0.05</b>
Nasser ... ..	- 0.40	- 0.52*
Malakal ... ..	- 0.17	- 0.21
Roseires ... ..	- 0.53	+ 0.13
Khartoum ... ..	- 0.20	- 0.30
Kajarti ... ..	- 0.29	- 0.18

\* Nasser normal is for 1922-1935 only.

**Discharges of the Nile during March, 1937**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Kajrarty (continued)</b>			<b>Gezira Main Canal</b> (Kilo. 13)			<b>Hillet Doleib (River Sobat)</b>		
6	72.22	832	19	131.88	610	2	15.78	55	4	11.21	77
11	72.21	795	21	131.95	621	2	15.78	59	10	11.20	67
18	72.23	755	22	131.96	636	2	15.78	68	17	11.10	56
26	72.13	731	23	131.93	631	23	16.00	65	Approx. Monthly Mean 57		
Approx. Monthly Mean 774			24	131.92	645	23	16.00	65	Normal Mean 1912-1936 113		
Normal Mean 1933-1936 851			25	131.91	649	Approx. Monthly Mean 64			<b>Nasser (River Sobat)</b>		
<b>Aswân</b> (Measured by Sluices)			26	131.92	649	Normal Mean 1926-1936 53			1	5.22	72
Aswân D.S. Gauge)			30	131.88	618	<b>Rasras (Blue Nile)</b>			2	5.18	73
1	85.60	870	31	131.88	612	2	12.40	117	3	5.19	74
2	85.59	869	Approx. Monthly Mean 615			4	12.34	118	4	5.22	71
3	85.59	868	Normal Mean 1912-1936 753			6	12.63	123	5	5.23	75
4	85.59	866	<b>Hassanâb (Main Nile)</b>			8	12.74	129	6	5.20	70
5	85.59	839	7	10.61	630	10	11.78	134	8	5.16	68
6	85.59	868	14	10.62	631	10	11.78	139	9	5.18 <sup>2</sup>	67
7	85.58	867	19	10.58	631	12	11.70	139	10	5.18 <sup>2</sup>	64
8	85.59	868	21	10.58	639	11	11.82	133	11	5.04	60
9	85.58	868	26	10.56	633	16	11.75	139	13	4.98	53
10	85.58	869	29	10.53	631	18	11.79	127	14	4.95	51
11	85.58	869	Approx. Monthly Mean 637			20	11.63	116	16	4.86	47
12	85.57	868	Normal Mean 1912-1936 709			22	11.61	111	17	4.81	45
13	85.57	866	<b>Tamaniât (Main Nile)</b>			24	11.63	112	18	4.81	43
14	85.59	870	3	10.65	705	26	11.61	110	20	4.84	43
15	85.59	870	10	10.60	690	28	11.50	110	21	4.82	43
16	85.60	869	15	10.65	695	30	11.61	112	23	4.82	40
17	85.56	868	18	10.65	692	Approx. Monthly Mean 109			25	4.78	38
18	85.56	870	22	10.60	693	Normal Mean 1912-1936 112			27	4.76	36
19	85.56	869	25	9.98	670	<b>Mogran (White Nile)</b>			28	4.76	36
20	85.56	869	Approx. Monthly Mean 671			2	10.37	492	29	4.76	35
21	85.46	812	Normal Mean 1912-1936 710			9	10.28	450	30	4.76	37
22	85.37	765	<b>Soba (Blue Nile)</b>			11	10.42	521	Approx. Monthly Mean 52		
23	85.37	765	1	10.05	196	17	10.35	497	Normal Mean 1929-1936 63		
24	85.48	812	8	9.94	178	21	10.35	499	<b>Bahr el Zerâf (Kilo. 3)</b>		
25	85.57	859	13	9.92	177	24	10.32	503	(Gauge at Mouth)		
26	85.56	858	16	9.94	180	Approx. Monthly Mean 487			3	11.48	135
27	85.56	857	20	9.94	181	Normal Mean 1912-1936 569			16	11.41	129
28	85.52	833	23	9.82	166	<b>Rank (White Nile)</b>			31	11.29	121
29	85.51	832	Approx. Monthly Mean 174			4	10.23	512	Approx. Monthly Mean 129		
30	85.49	824	Normal Mean 1912-1936 152			7	10.21	509	Normal Mean 1912-1936 141		
31	85.46	811	<b>Hillet Sherif (Blue Nile)</b> (Old Semar Gauge)			12	10.20	516	<b>D.S. Tail Cut No. 2</b> (Gauge at Pole 53)		
Approx. Monthly Mean 852			1	10.07	197	17	10.20	504	9	26.37	113
Normal Mean 1912-1936 776			3	10.01	171	22	10.18	491	24	26.33	112
<b>Kajrarty (Main Nile)</b>			6	10.01	173	27	10.20	483	Approx. Monthly Mean 113		
1	132.09	671	8	10.00	172	Approx. Monthly Mean 560			Normal Mean 1927-1936 127		
2	132.05	665	10	10.00	169	Normal Mean 1928-1936 555			<b>Jebel-Zerâf Cuts</b> (Tail Cut No. 2)		
3	132.01	621	13	10.00	193	<b>Malakâl (White Nile)</b>			(Head cut No. 2 Gauge)		
4	131.99	657	15	10.08	192	1	10.22	513	9	26.50	18
5	131.96	626	17	9.94	156	3	10.20	529	24	26.45	19
7	131.96	629	20	9.92	151	10	10.17	512	Approx. Monthly Mean 19		
9	131.91	608	22	9.87	143	15	10.11	491	Normal Mean 1927-1936 25		
10	131.90	616	25	9.87	138	20	10.05	484	<b>Tail Cut No. 1</b>		
11	131.89	607	27	9.86	139	25	9.99	490	9	27.95	106
12	131.88	612	29	9.85	138	30	9.93	492	24	27.92	106
16	131.88	612	31	9.84	139	Approx. Monthly Mean 503			Approx. Monthly Mean 106		
17	131.88	624	Approx. Monthly Mean 162			Normal Mean 1912-1936 575			Normal Mean 1927-1936 86		
18	131.88	610	Normal Mean 1912-1936 152								

**Discharges of the Nile during March, 1937 (contd.)**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Zerâf</b> (U.S. Tail Cut No. 1)			<b>Bahr el Jebel (contd.)</b> Buffalo Cape			<b>Bahr el Jebel (contd.)</b> D.S. Awai Tail <sup>1</sup>			<b>Bahr el Jebel</b> (U. S. R. P. 111)		
9	27.95	16	Feb. 12	11.12	328	5	10.85	528	2	10.99	473
24	27.92	11	Approx. Monthly Mean	326	20	10.82	509	17	10.97	465	
Approx. Monthly Mean	—	—	Mar. 1	11.09	320	Approx. Monthly Mean	516	Approx. Monthly Mean	468		
Normal Mean 1927-1936	16		12	11.07	316						
<b>Abu Tong (White Nile)</b> (Tonga Gauge)			27	11.01	320	<b>Awai Tail<sup>3</sup></b>			<b>Bor</b>		
3	11.79	323	Approx. Monthly Mean	318	6	11.43	496	1	10.72	586	
16	11.72	316			21	11.41	492	16	10.72	586	
31	11.63	325			Approx. Monthly Mean	494	Approx. Monthly Mean	585			
Approx. Monthly Mean	320		<b>Hillet Nuer</b>			<b>U.S. Awai Tail<sup>1</sup></b>			<b>Normal Mean 1912-1936</b> 583		
Normal Mean 1923-1936	316		10	10.67	332	5	10.85	192	<b>Khor Unyam Kojie</b> (Mouth)		
<b>Tonga Cut (Mouth)</b>			25	10.63	336	20	10.82	182	<b>(Bor Gauge)</b>		
15	11.72	—4	Approx. Monthly Mean	333	Approx. Monthly Mean	187	<b>1</b>   10.72   —34				
30	11.63	—4					<b>16</b>   10.72   —34				
Approx. Monthly Mean	—5		<b>D.S. Tail of Peake's Channel</b> (Head Cut No. 2 Gauge)			<b>Approx. Monthly Mean</b> —34			<b>Normal Mean 1925-1936</b> —22		
<b>White Nile</b> (U.S. Barboi Head)			8	26.50	346	<b>River Atem</b> (Western Channel)					
<b>(Tonga Gauge)</b>			23	26.45	340	<b>Jonglei</b>					
2	11.79	335	Approx. Monthly Mean	343	3	8.26	84				
15	11.72	333	Normal Mean 1927-1936	342	18	8.22	84				
30	11.63	337			Approx. Monthly Mean	84					
Approx. Monthly Mean	335		<b>D.S. Head Cut No. 2</b>						<b>Bahr el Jebel</b> Gigging (Western Channel <sup>1</sup> )		
<b>U.S. Khor Yergol</b>			8	26.50	249				3	28.46	135
2	13.43	335	23	26.45	250				16	28.53	140
15	13.40	337	Approx. Monthly Mean	249	Approx. Monthly Mean	249				Approx. Monthly Mean	138
30	13.32	337	Normal Mean 1927-1936	232	Normal Mean 1927-1936	232				Normal Mean 1931-1936	158
Approx. Monthly Mean	336		<b>Jebel-Zerâf Cuts</b> (Head Cut No. 2)						<b>Approx. Monthly Mean</b> 177		
<b>U.S. Maya Sinyora</b> (Lake No Gauge)			8	26.50	20				<b>Normal Mean 1931-1936</b> 158		
1	13.67	335	23	26.45	21						
14	13.65	350	Approx. Monthly Mean	21							
29	13.60	346	Normal Mean 1927-1936	26							
Approx. Monthly Mean	345		<b>Head Cut No. 1</b>						<b>Bahr el Jebel</b> Gemeiza (Eastern Channel)		
<b>Lake No</b>			8	11.79	104				2	428.28	511
13	13.65	340	23	11.77	103				15	428.30	519
28	13.60	346	Approx. Monthly Mean	103				Approx. Monthly Mean	514		
Approx. Monthly Mean	346		Normal Mean 1927-1936	88				Normal Mean 1931-1936	534		
Normal Mean 1923-1936	317		<b>Bahr el Jebel</b> (U.S. Head Cut No. 1)						<b>Terrakekka</b>		
<b>Bahr el Ghazâl</b> (At Mouth) (Suddite Factory Gauge)			7	11.79	382				1	12.70	636
13	13.65	20	22	11.77	384				14	12.66	634
28	13.62	20	Approx. Monthly Mean	383				Approx. Monthly Mean	636		
Approx. Monthly Mean	21		Normal Mean 1927-1926	353				Normal Mean 1931-1936	714		
Normal Mean 1923-1936	15		<b>U.S. Head of Peake's Channel</b> (Ghabet El-Inderab Gauge)						<b>Mongalla</b>		
<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			7	11.90	482				1	11.30	648
13	13.65	322	22	11.88	474				7	11.27	645
28	13.60	324	Approx. Monthly Mean	479				13	11.26	637	
Approx. Monthly Mean	324							19	11.30	651	
Normal Mean 1923-1936	304							25	11.30	657	
								Approx. Monthly Mean	647		
								Normal Mean 1912-1936	671		

**Occasional Discharges (contd.)**

*Observed by the Irrigation Department*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>2</sup> . p.s.
			Reading	Site	
		<b>River Sobât Tributaries</b>	M.		
22-3-1937	Khor Wakau	Mouth, 200 mts. U.S.R.P. 6	4.82	Nasser	0
30-3-1937	"	"	4.76	"	0
		<b>White Nile Tributaries</b>			
11-3-1937	Outlet on L.B.	Mouth, 200 mts. U.S.R.P. 6	13.40	Khor Yergol	0
		<b>Bahr el Ghazâl and Tributaries</b>			
21-3-1937	Ghazâl	U.S. Bahr el Arab	13.68	Ghabet El Arab	30
22-3-1937	"	D.S. " "	13.68	"	30
22-3-1937	"	U.S. Khor Nyang	13.68	"	27
22-3-1937	Khor Nyang	Mouth	—	—	0
22-3-1937	Ghazâl	U.S. Khor Jakaji	13.68	G. H Arab	30
23-3-1937	Khor Jakaji	Mouth	—	—	0
23-3-1937	Ghazâl	U.S. Khor Ardeiba	13.61	Yoynyang	26
23-3-1937	Khor Ngol	Mouth	—	—	0
24-3-1937	Khor Ardeiba	"	—	—	0
24-3-1937	Ghazâl	U.S. Khor Charmaich	13.64	Yoynyang	25
24-3-1937	Khor Charmaich	Mouth	—	—	0
24-3-1937	Ghazâl	U.S. Khor Loich	13.64	Yoynyang	25
24-3-1937	Khor Loich	Mouth	—	—	0
12-3-1937	Ghazâl	U.S. Khor Doleib	13.65	S. Factory	34
25-3-1937	"	" " "	13.62	"	24
27-3-1937	"	" " "	13.62	"	22
25-3-1937	Khor Doleib	5 Kms. U.S. Mouth	13.62	"	17
27-3-1937	Ghazâl	D.S. Khor Doleib	13.62	"	39
26-3-1937	"	4 Kms. U.S. Sukdite Gauge	13.62	"	15
26-3-1937	"	Mouth	13.62	"	13
		<b>Bahr el Jebel</b>			
7-3-1937	Jebel	D.S. Lake Nyong	10.47	L. Nyong	472
22-3-1937	"	" " "	10.46	"	476
7-3-1937	"	U.S. " "	10.47	"	483
22-3-1937	"	" " "	10.46	"	483
4-3-1937	"	D.S. Khor, 2 Kms. U.S.R.P. 104	10.86	Kenisa	324
19-3-1937	"	" " " " "	10.83	"	295
4-3-1937	"	U.S. " " " "	10.86	"	230
19-3-1937	"	" " " " "	10.83	"	216
		<b>Spills on the Bahr el Jebel</b>			
		<i>Negative discharges denote spills out</i>			
16-3-1937	(Atem Head No. 1)	100 mts. D.S. Head	10.72	Bor	-20

P. PHILLIPS  
Director, Hydrological Service

# Ministry of Public Works, Egypt. Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR MAY, 1937

### The Weather

Unusually cool during the second and third weeks.

The month opened with very hot weather due to southerly winds blowing into a depression which was advancing along the Mediterranean coast of Egypt. The temperature in Cairo reached 43° C (109° F) on the 2nd; this is 13° C above normal. The depression passed the Delta during the 2nd, and northwest winds brought a fall of temperature, but by the 5th, approaching depressions again gave rise to warm southerly winds, and the temperature in Cairo rose to 40° C. (104° F). The passage of this low-pressure system was accompanied by northeast gales, attaining a velocity of 98 kilometres per hour at Helwan. Unusually cool winds for the time of year then reached Egypt from the Balkans, and on the 7th the temperature in Cairo did not exceed 25° C (77° F) throughout the day. This was the coolest day in May since 1919.

Low pressure over Asia Minor and Syria in combination with high pressure extending from the Balkans across the Mediterranean to western Egypt persisted with little change until the 14th, and during this period abnormally cool northwesterly winds prevailed in Egypt.

On the 13th a depression was situated over Tunis, but during the next few days it took a very unusual course—to the southeast,—and eventually passed over Upper Egypt to northern Arabia. In consequence the winds in Egypt remained northerly and the weather cool. Very light showers were widespread in Middle and Upper Egypt for three days during the passage of this depression.

During the last week a heat wave of short duration was experienced, the temperature on the 28th rising to 41° C (106° F) in Cairo. By the following morning the depression to which the heat wave was due had passed to Syria, and the temperature in Egypt rapidly fell to normal.

For the month as a whole the atmospheric pressure was everywhere above normal. The temperature was also above normal except in Lower and Middle Egypt.

Rainfall was above normal in the Central and Southern Sudan.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR MAY 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1014.9	+1.5	25.8	-0.1	17.8	+0.5	21.8	+0.2	0	- 2
II. Lower Egypt ...	1014.6	+0.6	30.8	-1.3	15.1	-0.3	23.0	-0.8	0	- 2
III. Middle Egypt ...	1014.2	+1.1	32.1	-0.1	17.0	+0.2	24.6	0.0	0	- 1
IV. Upper Egypt ...	1012.7	+0.7	36.5	+0.2	19.6	+0.5	28.0	+0.4	0	-
V. Western Desert ...	1013.8	+1.5	36.2	-0.4	19.2	+1.0	27.7	+0.3	0	-
VI. Red Sea (Egypt) ...	1011.6	+0.5	31.3	-0.2	21.6	+0.5	26.4	+0.2	0	0
* VII. Red Sea (Sudan) ...	1009.6	+0.1	—	—	24.3	+0.5	—	—	0	- 1
VIII. North Sudan ...	1008.6	0.0	40.9	-0.6	25.1	+1.0	33.0	+0.2	4	0
IX. Central Sudan ...	1008.8	+0.1	39.9	0.0	23.7	+1.2	31.8	+0.6	35	+13
X. South Sudan ...	1011.2	+0.4	35.0	+0.1	22.4	+0.4	28.7	+0.2	135	+18

\* Port Sudan only.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba rose 12 cms. during the month. Its level, on June 1st 1937 was 30 cms. above the normal and 41 cms. above that of the corresponding day of last year.

The Bahr el Jebel at Juba rose with sharp fluctuations until the 22nd but fell afterwards. The levels were above last year's throughout and on the average a little above normal.

The River Sobat at Nasser rose rapidly during the month, the level which was 36 cms. below normal at the beginning being 65 cms. above normal at the end. On the average the levels were about the same as those of last year.

The White Nile at Malakal rose faster than normally the levels being below both the normal and last year's for the first half and above normal and practically the same as last year's for the second half of the month.

The Blue Nile at Roseires which was a little below normal at the beginning of the month rose rapidly with fluctuations and was 76 cms. above normal at the end. On the average the levels were about the same as last year's. At Khartoum the Blue Nile remained almost steady for the first 20 days and rose afterwards. The levels were on the average a little below both the normal and last year's.

The River Atbara at Khashm el Girba began to rise on the 25th.

The Main Nile at Kajnarti fell slowly for the first half of the month and then showed a slight upward tendency. The levels were on the average about 40 cms. below both the normal and last year's.

The differences of the mean levels in May 1937 from those of May 1936 and from the normal ~~1905-1936~~ were:—

*1906-1925*

STATION	MEAN DIFFERENCES OF LEVELS	
	May 1937 minus May 1936	May 1937 minus Normal
	Metres	Metres
Juba ... ..	+ 0.39	+ 0.11
Nasser ... ..	- 0.08	+ 0.09*
Malakal ... ..	- 0.10	- 0.02
Roseires ... ..	- 0.03	+ 0.24
Khartoum ... ..	- 0.15	- 0.20
Kajnarti ... ..	- 0.39	- 0.45

\* Nasser normal is for 1922-1935 only.

Discharges of the Nile during April, 1937

Observed by the Irrigation Department

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b>			<b>Kajnarly (continued)</b>			<b>Roseires (Blue Nile)</b>			<b>Nasser (River Sobât)</b>		
(Main Nile)											
1	72.13	746	23	131.59	553	1	11.64	112	1	4.79	39
15	72.02	717	26	131.69	578	3	11.65	117	3	4.77	38
23	72.06	741	27	131.61	547	5	11.59	106	4	4.76	38
29	72.06	705	28	131.56	535	7	11.52	99	5	4.74	35
Approx. Monthly Mean		728	29	131.53	528	9	11.46	87	6	4.73	34
Normal Mean 1933-1936		763	Approx. Monthly Mean		558	11	11.42	83	7	4.69	31
			Normal Mean 1912-1936		621	13	11.38	79	8	4.68	31
<b>Aswân</b>			<b>Hassanâb (Main Nile)</b>								
Measured by Sluices)											
Aswân D.S. Gauge)											
1	85.35	753	7	10.44	600	15	11.38	79	10	4.70	33
2	85.34	752	11	10.49	606	17	11.60	108	11	4.71	33
3	85.33	752	16	10.43	559	19	11.54	100	12	4.70	33
4	85.35	754	19	10.50	595	21	11.49	95	13	4.69	33
5	85.34	753	26	10.12	504	23	11.44	86	14	4.70	32
6	85.34	753	30	10.33	468	25	11.40	80	17	4.82	41
7	85.34	752	Approx. Monthly Mean		569	27	11.34	77	18	4.92	50
8	85.33	752	Normal Mean 1912-1936		646	29	11.30	69	19	5.03	56
9	85.33	751	<b>Tamaniât (Main Nile)</b>			Approx. Monthly Mean			20	5.11	65
10	85.33	751				Normal Mean 1912-1936			21	5.14	68
11	85.34	753	3	9.84	611				24	5.10	66
12	85.34	752	7	9.86	606	<b>Mogren (White Nile)</b>			25	5.12	67
13	85.34	749	12	9.87	605				26	5.18	71
14	85.34	753	15	9.92	642				27	5.18	73
15	85.33	753	22	9.83	591				Approx. Monthly Mean		49
16	85.35	764	26	9.73	546				Normal Mean 1929-1936		92
17	85.35	763	Approx. Monthly Mean		599				<b>Bahr el Zerâf (Kilo. 3)</b>		
18	85.41	787	Normal Mean 1912-1936		677				(Gauge at Mouth)		
19	85.41	785	<b>Soba (Blue Nile)</b>						16		
20	85.41	787							11.21		
21	85.40	786							117		
22	85.41	788							Approx. Monthly Mean		
23	85.41	788							Normal Mean 1912-1936		
24	85.40	787							131		
25	85.40	786							<b>D.S. Tail Cut No. 2</b>		
26	85.40	787							(Gauge at Pole 53)		
27	85.40	787							9		
28	85.40	786							26.34		
29	85.40	788							113		
30	85.40	787							24		
Approx. Monthly Mean		768							26.34		
Normal Mean 1912-1936		724							112		
<b>Kajnarly (Main Nile)</b>									Approx. Monthly Mean		
1	131.87	607							Normal Mean 1927-1936		
2	131.88	614							113		
5	131.84	586							124		
6	131.84	583							<b>Jebel-Zerâf Cuts</b>		
7	131.81	577							(Tail Cut No. 2)		
8	131.78	561							(Gauge at Pole 53)		
12	131.70	553							9		
13	131.65	548							26.34		
14	131.62	540							19		
15	131.62	550							26.34		
16	131.63	550							20		
20	131.54	533							Approx. Monthly Mean		
21	131.50	520							Normal Mean 1927-1936		
22	131.52	534							19		
									25		
									<b>Bahr el Zerâf</b>		
									(D.S. Tail Cut No. 1)		
									March 9		
									27.95		
									93		
									24		
									27.92		
									92		
									Approx. Monthly Mean		
									April 9		
									27.93		
									91		
									24		
									27.93		
									90		
									Approx. Monthly Mean		
									—		
									<b>Jebel-Zerâf Cuts</b>		
									(Tail Cut No. 1)		
									9		
									27.93		
									108		
									24		
									27.93		
									105		
									Approx. Monthly Mean		
									107		
									Normal Mean 1927-1936		
									87		

Discharges of the Nile during April, 1927 (contd.)

Observed by the Irrigation Department

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>Bahr el Jebel (contd.)</b> (Hillet Nuer)			<b>Bahr el Jebel (contd.)</b> (Awai Tail 3)			<b>Lake Papiu (Mouth)</b>		
16	11.57	327	10	10.63	328	6	11.41	493	2	10.91	121
Approx. Monthly Mean 323			25	10.62	326	21	11.42	509	17	10.99	134
Normal Mean 1923-1936 310			Approx. Monthly Mean 328			Approx. Monthly Mean 503			Approx. Monthly Mean 134		
<b>Tonga Cut (Mouth)</b>			(D.S. Tail of Peake's Channel)			(D.S. Awai Tail 1)			<b>Bahr el Jebel</b> (U.S. Lake Papiu)		
15	11.58	0	(Head Cut No. 2 Gauge)			5	10.81	507	2	10.91	174
30	11.56	5	8	26.44	342	20	10.83	514	17	10.99	188
Approx. Monthly Mean 1			23	26.46	345	Approx. Monthly Mean 514			Approx. Monthly Mean 186		
<b>White Nile</b> (U.S. Barboi Head)			Approx. Monthly Mean 344			(U.S. Awai Tail 1)			(U. S. R. P. 114)		
(Tonga Gauge)			Normal Mean 1927-1936 336			5	10.81	187	Approx. Monthly Mean 167		
15	11.58	328	(D.S. Head Cut No. 2)			20	10.83	189	17	11.04	199
30	11.56	324	8	26.44	246	Approx. Monthly Mean 188			Approx. Monthly Mean 189		
Approx. Monthly Mean 329			23	26.46	245	<b>River Atem</b> (Western Channel)			Bor		
<b>U.S. Khor Yergol</b>			Approx. Monthly Mean 246			(Jonglei)			1		
15	13.25	332	Normal Mean 1927-1936 230			3	8.20	84	16		
30	13.25	322	<b>Jebel-Zerâf Cuts</b> (Head Cut No. 2)			18	8.20	84	Approx. Monthly Mean 544		
Approx. Monthly Mean 330			8	26.44	21	Approx. Monthly Mean 84			Normal Mean 1912-1936 512		
<b>U.S. Maya Sinyora</b> (Lake No Gauge)			23	26.46	22	(Eastern Channel)			<b>Khor Unyam Kofie</b> (Mouth)		
14	13.55	334	Approx. Monthly Mean 21			(Jonglei)			(Bor Gauge)		
29	13.54	325	Normal Mean 1927-1936 25			3	8.20	175	1		
Approx. Monthly Mean 334			(Head Cut No. 1)			18	8.20	179	16		
<b>Lake No</b>			8	11.76	101	Approx. Monthly Mean 179			Approx. Monthly Mean 540		
13	13.55	325	23	11.77	100	<b>Bahr el Jebel</b> (Kenisa)			Normal Mean 1925-1936 524		
28	13.54	329	Approx. Monthly Mean 101			4	10.82	277	<b>Bahr el Jebel</b> (Gigging)		
Approx. Monthly Mean 330			Normal Mean 1927-1936 89			19	10.85	291	(Western Channel)		
Normal Mean 1923-1936 312			<b>Bahr el Jebel</b> (U.S. Head Cut No. 1)			Approx. Monthly Mean 284			3		
<b>Bahr el Ghazâl</b> (At Mouth)			7	11.76	380	D.S. Khor (U.S.R.P. 104)			15		
(Suddite Factory Gauge)			22	11.77	379	4			28.43		
13	13.54	20	Approx. Monthly Mean 380			19			28.77		
28	13.54	25	Normal Mean 1927-1936 350			Approx. Monthly Mean 315			Approx. Monthly Mean 164		
Approx. Monthly Mean 22			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.P. 104)			Normal Mean 1931-1936 164		
Normal Mean 1923-1936 13			(Ghabet El-Inderab Gauge)			4	11.15	308	<b>(Gemeiza)</b> (Eastern Channel)		
<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			7	11.87	480	19			2		
13	13.55	318	22	11.89	476	Approx. Monthly Mean 315			14		
28	13.54	314	Approx. Monthly Mean 478			U.S. Khor (U.S.R.P. 104)			428.54		
Approx. Monthly Mean 318			Normal Mean 1923-1936 302			4			305		
Normal Mean 1923-1936 302			(D.S. Lake Nyong)			19			242		
<b>(Buffalo Cape)</b>			7	10.44	473	Approx. Monthly Mean 238			<b>(D.S. Lake Papiu)</b>		
12	11.01	316	22	10.47	480	2			10.91		
27	11.00	319	Approx. Monthly Mean 477			17			10.99		
Approx. Monthly Mean 318			(U.S. Lake Nyong)			Approx. Monthly Mean 315			3209		
<b>Approx. Monthly Mean 318</b>			6	10.44	481	17			3209		
			21	10.47	481	Approx. Monthly Mean 315			Approx. Monthly Mean 564		
			Approx. Monthly Mean 482						Normal Mean 1931-1936 564		

**Discharges of the Nile during April, 1937 (contd.).**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Jebel (contd.)</b>			<b>River Assua</b>		
Terrakekka			(D.S. Gauge)		
1	12.67	638	March 20	1.09	2
13	13.06	752	21	1.05	1
Approx. Monthly Mean		717	Approx. Monthly Mean		—
Normal Mean 1931-1936		739	Normal Mean 1924-1936		9
<b>Mongalla</b>			<b>Meshra Surrou</b>		
			(Bahr el Jebel)		
1	11.29	639	March 14	8.51	650
7	11.29	638	15	8.50	652
13	11.63	768	16	8.52	674
19	11.50	717	17	8.52	652
25	11.60	745	18	8.51	658
Approx. Monthly Mean		714	19	8.51	639
Normal Mean 1912-1936		714	<b>River Unyama</b>		
			March 16	10.16	0

**Occasional Discharges**

(Observed by the Irrigation Department)

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> per sec.
			Reading	Site	
<b>River Sobat Tributaries</b>					
17-4-1937	Khor Fullus	Mouth	10.84	Hillet Dolieb	0
15-4-1937	.. Twalor	..	4.68	Nasser	0
22-4-1937	.. ..	..	5.14	..	0
29-4-1937	.. ..	..	5.22	..	0
11-4-1937	.. Wakau	..	4.69	..	0
21-4-1937	.. ..	..	5.13	..	0
28-4-1937	.. ..	..	5.19	..	0
<b>White Nile and Tributaries</b>					
16-4-1937	Khor Attar	Mouth	—	—	0
15-4-1937	.. Yergol	..	—	—	0
30-4-1937	.. ..	..	—	—	0
14-4-1937	Outlet on L. Bank	200 mts. U.S.R.P. 6	—	—	0
29-4-1937	.. ..	..	—	—	0
14-4-1937	Maya Sinyora	Mouth	—	—	0
29-4-1937	.. ..	..	—	—	0
<b>Bahr el Ghazal</b>					
12-4-1937	Ghazal	D.S. Khor Dolieb	—	—	0
27-4-1937	.. ..	..	13.54	Suddits Factory	15
<b>Bahr el Jebel and Tributaries</b>					
16-3-1937	Peake's Channel	At Tail	26.46	Head Out 2	91
3-4-1937	.. ..	..	26.44	..	99
19-4-1937	.. ..	..	26.45	..	96
16-3-1937	.. ..	18.750 kms. D.S. Head	26.46	..	89
3-4-1937	.. ..	..	26.44	..	89
18-3-1937	.. ..	At Junction of Track: 1.1 kms. D.S. Head	11.56	Peake's track No. 5	76
18-3-1937	.. Khor	At head: between Peake's Channel Head and Peake's Track Head	12.13	1	7
18-3-1937	Peake's Channel	At Head	12.13	..	79
25-4-1937	.. ..	..	12.12	..	78
19-4-1937	.. ..	..	12.15	..	80
20-4-1937	Khor Koda	At Mouth	—	—	0
20-4-1937	Khor Luri	..	—	—	0
<b>Spills on the Bahr el Jebel</b>					
(Negative Discharges denote spills out). <i>0.5</i>					
26-3-1937	Spil in on left bank	400 mts. D.S. R.P. 111	10.92	Lake Papiu	9
28-3-1937	.. ..	D.S. R.P. 121	10.66	Bor	31
26-3-1937	Spil in on left bank	No. 5 between R. Ps. 112 and 113	10.92	Lake Papiu	-7
26-3-1937	.. ..	No. 9 between R. Ps. 112 and 113	10.92	..	-9
27-3-1937	.. ..	No. 1 between R. Ps. 115 and 116 (S.K.D.S. 116)	10.97	R.P. 114	-14
27-3-1937	.. ..	No. 6 between R. Ps. 117 and 118	10.97	..	-1
27-3-1937	.. ..	No. 7 between R. Ps. 117 and 118	10.97	..	-11
27-3-1937	.. ..	No. 10 between R. Ps. 117 and 118	10.97	..	-1
28-3-1937	.. ..	No. 1 between R. Ps. 120 and 121 (300 mts. D.S. 121)	10.66	Bor	-1
28-3-1937	.. ..	No. 1 between R. Ps. 122 and 123 (2 Kms. D.S. 123)	10.66	..	-1
30-3-1937	.. ..	Between R.P. 130 and Tombe; 3 Kms. D.S. Tombe	11.11	Tombe	-1

**Occasional Discharges (contd.)**

(Observed by the Irrigation Department)

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
<b>Spills on the Bahr el Jebel (contd.)</b>					
<i>(The following Discharges were obtained from one currentmeter observation of the surface velocity in the middle of the Stream.)</i>					
17-2-37	Spill out on Left Bank	Spill 1 between R. Ps. 112 and 113	10.98	Lake Papiu	0
17-2-37	"	Spill 2 " " " "	10.98	"	-2
17-2-37	"	Spill 4 " " " "	11.04	R.P. 114	-1
17-2-37	"	Spill 5 " " " "	11.04	"	-5
17-2-37	"	Spills 6 and 7 between R. Ps. 112 and 113	11.04	"	-3
17-2-37	"	Spill 8 between R. Ps. 112 and 113	11.04	"	-2
17-2-37	"	Spill 10 " " " "	11.04	"	-1
17-2-37	"	Spill 11 " " " "	11.01	"	-2
17-2-37	"	Spill between R. Ps. 113 and 114	11.04	"	0
17-2-37	"	" " " " 114 and 115	11.04	"	0
17-2-37	"	400 mts. D.S.R.P. 117	11.04	"	-1
17-2-37	"	Spill No.1; 80 mts. U.S.R.P. 117	11.04	"	-5
17-2-37	"	" " 2; 100 " " " "	11.01	"	-2
17-2-37	"	" " 3 between R. Ps. 117 and 118	11.04	"	0
17-2-37	"	" " 4 " " " "	11.04	"	0
17-2-37	"	" " 5 " " " "	11.04	"	0
17-2-37	"	Spills No. 8 and 9 between R. Ps. 117 and 118	11.01	"	-2
17-2-37	"	Spill No. 11 between R. Ps. 117 and 118	11.04	"	-1
17-2-37	"	" " 12 " " " "	11.01	"	0
17-2-37	"	" " 13 " " " "	11.04	"	-1
17-2-37	"	" " 1 between R. Ps. 118 and 119	11.04	"	-1
17-2-37	"	" " 1 " " " " 119 " 120	11.04	"	0
17-2-37	"	Spill between R.Ps. 123 & 124	10.82	Bor	0
17-2-37	"	Spill No. 1 between R.Ps. 124 & 125	10.80	"	-1
17-2-37	"	" " 2 " " " "	10.80	"	0
17-2-37	"	Spill No.3 between R.Ps. 124 & 125	10.80	"	-2
17-2-37	"	Spill between R.Ps. 125 & 126	10.80	"	-1
17-2-37	"	Spill between R.Ps. 126 & 127	20.31	Malek	0
17-2-37	"	Spill 300 mts. U.S. Malek	20.31	"	-1
17-2-37	"	Spill 400 " " " "	20.31	"	-2
17-2-37	"	Aliab Head 1	11.22	Tombe	0
26-3-37	"	Spill No. 1 between R.Ps. 112 & 113	10.92	Lake Papiu	0
26-3-37	"	" " 2 " " " "	10.92	"	-1
26-3-37	"	" " 3 " " " "	10.92	"	-1
26-3-37	"	" " 4 " " " "	10.92	"	-1
26-3-37	"	" " 5A " " " "	10.92	"	0
26-3-37	"	Spills Nos. 6 & 7 between R.Ps. 112 & 113	10.92	"	-2
26-3-37	"	Spill No. 8 between R. Ps. 112 & 113	10.92	"	-1
26-3-37	"	" " 10 " " " "	10.92	"	-1
26-3-37	"	" " 11 " " " "	10.92	"	-1
26-3-37	"	" " 1 " " " " 113 & 114	10.97	R.P. 114	0
26-3-37	"	" " 1 " " " " 114 & 115	10.97	"	0
27-3-37	"	" " 1 400 mts. D.S. R.P. 117	10.97	"	-1
27-3-37	"	" " 1 80 mts. U.S. R.P. 117	10.97	"	-4
27-3-37	"	" " 2 100 " " " "	10.97	"	-2
27-3-37	"	" " 3 between R.Ps. 117 & 118	10.97	"	0
27-3-37	"	" " 4 " " " "	10.97	"	0
27-3-37	"	" " 4A " " " "	10.97	"	0
27-3-37	"	" " 5 " " " "	10.97	"	0
27-3-37	"	Spills Nos. 8 & 9 between R.Ps. 117 & 118	10.97	"	-2
27-3-37	"	Spill No. 11 between R.Ps. 117 & 118	10.97	"	-1
27-3-37	"	" " 12 " " " "	10.97	"	0
27-3-37	"	" " 13 " " " "	10.97	"	-1

**Occasional Discharges (contd.)**

*Observed by the Irrigation Department*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>2</sup> . p.a.
			Reading	Site	
<b>Spills on the Bahr el Jebel (contd.)</b>					
27-3-1937	Spill out on Left Bank	Spill No. 14 between R.Ps. 118 & 119 ... ..	10.97	R. P. 114	-1
27-3-1937	"	" 1 " " " " ... ..	10.97	"	-1
27-3-1937	"	" 1 " " 119 & 120... ..	10.97	"	0
28-3-1937	"	" 1 " " 123 & 124... ..	10.66	Bor	0
29-3-1937	"	" 1 " " 124 & 125... ..	10.66	"	-1
29-3-1937	"	" 2 " " " " ... ..	10.66	"	0
29-3-1937	"	" 3 " " " " ... ..	10.66	"	-1
29-3-1937	"	" 1 " " 125 & 126... ..	10.66	"	-1
30-3-1937	"	" 1 " " 128 & 129... ..	20.18	Malek	0
30-3-1937	"	" 2 " " " " ... ..	20.18	"	-2
30-3-1937	"	" 1 " " 129 & 130... ..	20.18	"	-3

**P. PHILLIPS**

*Director, Hydrological Service*

# Ministry of Public Works, Egypt.—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JUNE, 1937

### The Weather

The weather during June was settled to an unusual degree and there was a complete absence of pronounced heat waves. For the first few days cool north-westerly winds prevailed, but subsequently the temperature was continuously within a degree or two of the normal.

For the month as a whole the barometric pressure was slightly above normal in Egypt and below in the Sudan, except in the extreme south. The temperature was normal on the Mediterranean coast, below normal else where throughout Egypt, especially in Upper Egypt, and above normal in the Central and Southern Sudan. The relative humidity at Alexandria and Helwân was above normal on all but four days.

Rainfall was slightly below normal in the Central Sudan and slightly above in the Southern Sudan.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR JUNE 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN. 2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1012.5	+0.3	27.7	-0.5	21.1	+0.7	21.4	+0.1	0	0
II. Lower Egypt ...	1012.0	0.0	33.2	-1.4	18.0	-0.3	25.6	-0.8	0	0
III. Middle Egypt ...	1011.8	+0.2	34.4	-0.6	19.6	0.0	27.0	-0.3	0	0
IV. Upper Egypt ...	1010.3	+0.3	37.4	-1.2	21.2	-0.7	23.3	-1.0	0	—
V. Western Desert ...	1012.3	+1.5	37.0	-2.2	21.0	-0.7	29.0	-1.4	0	—
VI. Red Sea (Egypt) ...	1008.6	+0.2	32.8	-0.8	23.6	-0.6	28.2	-0.7	0	0
*VII. Red Sea (Sudan) ...	1006.1	-0.6	—	—	25.2	-0.5	—	—	0	0
VIII. North Sudan ...	1007.9	-0.3	41.1	-0.6	25.6	+0.3	33.4	-0.2	16	+ 4
IX. Central Sudan ...	1008.9	-0.7	39.4	+1.2	24.0	+1.2	31.7	+1.2	38	-12
X. South Sudan ...	1011.9	+0.2	32.6	-0.4	21.7	+0.6	27.2	+0.1	158	+13

RAINFALL DATA FOR JUNE, 1937

STATION	1937	Diff: from Normal	STATION	1937	Diff: from Normal
	mm.	mm.		mm.	mm.
Juba ...	177	+42	Adis Ababa ...	87	-47
Wau ...	152	-16	Roseires ...	108	-22
Malakal ...	145	+12	Wad Medani ...	27	-12
El Obeid ...	31	- 7	Atbara ...	0	- 2
El Fasher ...	22	+ 3	Kassala ...	56	+25
Khartoum (Stack) ...	6	- 4	Port Sudan ...	0	0

\* Port Sudan only.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba rose 9 centimetres during the month. Its level on July 1, 1937 was 36 centimetres above the normal and 44 centimetres above that of the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated about the normal during the first 25 days and then rose sharply. The levels were on the average a little better than the normal and about 20 centimetres above those of last year.

The River Sobat at Nasser rose much slower than normally, the level which was 65 centimetres above normal at the beginning of the month being 30 centimetres below normal at the end. The levels were below last year's throughout.

The White Nile at Malakal rose steadily, the levels being almost identical with last year's for the first half of the month, but below them afterwards, and on the average a little above normal.

The Nile at Rosciros fluctuated about the normal during the month. The levels on average a little above normal but a little below those of last year. At Khartoum Nile also fluctuated about the normal. The levels were about normal on the whole and a little above last year's.

The River Atbara at Khashm el Girba fell rapidly during the first half of the month, then improved slightly and after the 23rd began to rise rapidly and reached normal level by the end of the month.

The Main Nile at Kajarti rose a little faster than normally but the levels were below normal during the whole month and on the average about the same as last year's.

The differences of the mean levels in June 1937 from those of June 1936 and from the normal 1906-1935 were:—

STATION	MEAN DIFFERENCES OF LEVELS	
	June 1937 minus June 1936	June 1937 minus Normal
	Metres	Metres
Juba ... ..	+ 0.22	+ 0.08
Nasser ... ..	— 0.40	+ 0.09*
Malakal ... ..	— 0.04	+ 0.14
Rosciros ... ..	— 0.17	+ 0.18
Khartoum ... ..	+ 0.22	+ 0.04
Khashm el Girba... ..	+ 0.35	— 0.33
Kajarti ... ..	+ 0.02	— 0.21

\* Nasser normal is for 1922-1935 only.

Discharges of the Nile during May, 1937

(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (D.S. Barrage)</b> (Main Nile)			<b>Kajnarty (continued)</b>			<b>Roseires (Blue Nile)</b>			<b>Nasser (River Sobât)</b>		
6	72.08	773	21	131.37	487	1	11.27	66	1	5.26	78
13	72.13	740	23	131.39	496	3	11.33	72	4	5.42	97
21	72.38	902	24	131.43	524	5	11.40	81	5	5.52	103
24	72.48	968	26	131.53	550*	7	11.37	79	8	5.66	113
Approx. Monthly Mean		832	27	131.51	560*	9	11.38	82	9	5.76	121
Normal Mean 1933-1936		988	28	131.50	551*	11	11.48	92	10	5.83	129
			30	131.48	547*	13	12.11	199	11	5.88	137
			31	131.48	555*	15	12.10	262	12	6.14	167
			Approx. Monthly Mean		518	17	12.30	229	15	6.23	171
			Normal Mean 1912-1936		635	19	11.86	172	16	6.24	178
						21	12.14	209	17	6.33	188
<b>Aswân</b> (Measured by Sluices) (Aswân D.S. Gauge)			<b>Hassanâb (Main Nile)</b>			<b>Approx. Monthly Mean</b> 231 <b>Normal Mean 1912-1936</b> 269			<b>Approx. Monthly Mean</b> 191 <b>Normal Mean 1929-1936</b> 193		
1	85.41	812	6	10.39	551	<b>Mogren (White Nile)</b>			<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)		
2	85.45	808	10	10.40	577	1	10.15	454	1	11.21	113
3	85.45	812	14	10.47	597	5	10.12	450	16	11.33	112
4	85.45	810	21	10.43	587	9	10.11	477	31	11.55	111
5	85.44	810	28	10.61	678	16	10.16	466	Approx. Monthly Mean		112
6	85.44	810	31	10.62	717	23	10.25	489	Normal Mean 1912-1936		126
7	85.45	810	Approx. Monthly Mean		595	26	10.13	535	(D.S. Tail Cut No. 2) (Gauge at Pole 53)		
8	85.45	810	Normal Mean 1912-1936		689	<b>Renk (White Nile)</b>			9	26.33	114
9	85.46	809	<b>Tamaniât (Main Nile)</b>			10	10.02	485	25	26.36	113
10	85.41	809	3	9.78	573	13	10.07	507	Approx. Monthly Mean		113
11	85.44	806	6	9.76	580	16	10.12	530	Normal Mean 1927-1936		124
12	85.51	845	10	9.88	645	21	10.16	544	<b>Jebel-Zerâf Cuts</b> (Tail Cut No. 2) (Gauge at Pole 53)		
13	85.52	844	17	9.83	582	24	10.23	558	9	26.33	21
14	85.52	845	21	10.08	716	27	10.30	608	25	26.36	20
15	85.51	845	27	10.12	727	Approx. Monthly Mean		481	Approx. Monthly Mean		20
16	85.51	844	Approx. Monthly Mean		649	Normal Mean 1912-1936		544	Normal Mean 1927-1936		26
17	85.51	846	Normal Mean 1912-1936		756	<b>Malakâl (White Nile)</b>			<b>Bahr el Zerâf</b> (D.S. Tail Cut No. 1)		
18	85.52	846	<b>Soba (Blue Nile)</b>			1	9.90	491	9	27.92	94
19	85.48	883	1	9.59	133	5	9.94	511	25	27.95	101†
20	85.85	1,020	4	9.52	115	10	10.01	525	Approx. Monthly Mean		96
21	85.87	1,020	8	9.71	157	15	10.17	565	Normal Mean 1912-1936		96
22	85.86	1,020	15	9.65	136	20	10.30	602	<b>Jebel-Zerâf Cuts</b> (Tail Cut No. 1)		
23	85.86	1,020	22	9.96	202	25	10.42	634	9	27.92	107
24	85.86	1,020	25	10.21	238	30	10.60	681	25	27.95	110
25	85.86	1,020	Approx. Monthly Mean		164	Approx. Monthly Mean		529	Approx. Monthly Mean		108
26	85.86	1,020	Normal Mean 1912-1936		227	Normal Mean 1928-1936		594	Normal Mean 1927-1936		88
27	85.86	1,020	<b>Hillet Sherif (Blue Nile)</b> (Old Sennar Gauge)			<b>Hillet Doleib (River Sobât)</b>			<b>Approx. Monthly Mean</b> 155 <b>Normal Mean 1912-1936</b> 164		
28	85.86	1,020	1	9.74	113	2	10.95	67	<b>Normal Mean 1927-1936</b> 88		
29	85.86	1,020	3	9.95	162	10	11.06	90			
30	85.91	1,050	5	9.91	152	17	11.31	169			
Approx. Monthly Mean		906	8	9.88	142	25	11.55	212			
Normal Mean 1912-1936		832	10	9.85	137	Approx. Monthly Mean		577			
			13	9.83	130	Normal Mean 1912-1936		588			
			15	9.79	125						
			17	10.23	249						
			19	10.27	255						
			22	10.05	198						
			25	10.07	199						
			27	10.28	276						
			29	10.86	493						
			31	10.73	416						
			Approx. Monthly Mean		212						
			Normal Mean 1912-1936		260						

\* Measured at Halfa.

† Measured at 2.4 kms. D.S. Tail Cut No. 1.

Discharges of the Nile during May, 1937 (contd.)

(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>(Hillet Nuer)</b>			<b>Bahr el Jebel (contd.)</b> (D.S. Awai Tail 3)			<b>Bahr el Jebel</b> (U.S. Lake Papiu)		
1	11.56	312	10	19.62	330	6	11.42	514	2	11.15	199
16	11.66	314	26	10.65	338	21	11.46	501	17	11.40	181
31	11.81	306	Approx. Monthly Mean 332			Approx. Monthly Mean 508			Approx. Monthly Mean 186		
Approx. Monthly Mean 311			(D.S. Tail of Peake's Channel)			(D.S. Awai Tail 1)			(U.S.R.P. 114)		
Normal Mean 1923-1936 303			(Head Cut No. 2 Gauge)			5 10.86 536			2 11.09 499		
<b>Tonga Cut (Mouth)</b>			8 26.45 348			20 10.52 531			17 11.18 521		
15	11.65	6	24 26.51 353			Approx. Monthly Mean 538			Approx. Monthly Mean 514		
30	11.83	-13	Approx. Monthly Mean 350			(U.S. Awai Tail 1)			(Bor)		
Approx. Monthly Mean 1			Normal Mean 1927-1936 340			5 10.86 192			1 11.66 674		
<b>White Nile</b>			(D.S. Head Cut No. 2)			20 10.92 202			16 11.20 745		
(U.S. Barboi Head)			8 26.45 251			Approx. Monthly Mean 199			Approx. Monthly Mean 724		
(Tonga Gauge)			24 26.51 254			<b>River Atem</b>			Normal Mean 1912-1936 686		
15	11.65	316	Approx. Monthly Mean 252			(Jonglei)			<b>Khor Unyam Kojis</b>		
30	11.83	325	Normal Mean 1927-1936 234			(Western Channel)			(Mouth)		
Approx. Monthly Mean 320			<b>Jebel-Zerâf Cuts</b>			3 8.27 87			(Bor Gauge)		
(U.S. Khor Yergol)			(Head Cut No. 2)			18 8.43 98			1 11.06 -47		
15	13.31	326	8 26.45 21			Approx. Monthly Mean 98			16 11.20 -54		
30	13.42	321	24 26.51 22			(Jonglei)			Approx. Monthly Mean -54		
Approx. Monthly Mean 325			Approx. Monthly Mean 22			(Eastern Channel)			Normal Mean 1925-1936 -33		
U.S. Maya Sinyora			Normal Mean 1927-1936 27			3 8.27 186			<b>Bahr el Jebel</b>		
(Lake No Gauge)			(Head Cut No. 1)			18 8.43 221			(Gigging)		
14	13.58	311	8 11.76 106			Approx. Monthly Mean 223			(Western Channel)		
29	13.66	331	24 11.75 108			<b>Bahr el Jebel</b>			3 28.99 265		
Approx. Monthly Mean 320			Approx. Monthly Mean 106			(Kenisa)			15 29.14 218		
(Lake No)			Normal Mean 1927-1936 89			4 10.92 280			Approx. Monthly Mean 268		
13	13.57	324	<b>Bahr el Jebel</b>			19 10.98 301			Normal Mean 1931-1936 292		
28	13.65	332	(U.S. Head Cut No. 1)			Approx. Monthly Mean 294			<b>Bahr el Jebel</b>		
Approx. Monthly Mean 318			7 11.76 384			D.S. Khor (U.S.R.P. 104)			(Gemeiza)		
Normal Mean 1923-1936 310			24 11.79 397			4 11.30 340			(Eastern Channel)		
<b>Bahr el Ghazâl</b>			Approx. Monthly Mean 389			19 11.42 349			2 428.73 617		
(At Mouth)			Normal Mean 1927-1936 356			Approx. Monthly Mean 348			14 428.99 695		
(Suddite Factory Gauge)			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.P. 104)			Approx. Monthly Mean 671		
13	13.58	5	(Ghabet El-Inderab Gauge)			4 11.30 256			Normal Mean 1931-1936 642		
28	13.63	11	7 11.88 480			19 11.42 269			<b>Bahr el Jebel</b>		
Approx. Monthly Mean 10			24 11.93 492			Approx. Monthly Mean 265			(Terrakekka)		
Normal Mean 1923-1936 13			Approx. Monthly Mean 484			(D.S. Lake Papiu)			1 13.22 817		
<b>Bahr el Jebel (Kilo. 3)</b>			(D.S. Lake Nyong)			2 11.15 344			13 13.65 991		
(Lake No Gauge)			7 10.45 482			17 11.40 377			31 13.31 839		
13	13.57	318	23 10.49 496			Approx. Monthly Mean 373			Approx. Monthly Mean 908		
28	13.65	320	Approx. Monthly Mean 487			<b>Lake Papiu (Mouth)</b>			Normal Mean 1931-1936 872		
Approx. Monthly Mean 318			(U.S. Lake Nyong)			2 11.15 155			<b>(Mongalla)</b>		
Normal Mean 1923-1936 300			6 10.45 486			17 11.40 185			1 11.70 789		
<b>Bahr el Jebel (Kilo. 3)</b>			23 10.49 497			Approx. Monthly Mean 188			7 11.74 786		
(Lake No Gauge)			Approx. Monthly Mean 490			<b>Lake Papiu (Mouth)</b>			13 12.24 1030		
13	13.57	318	(U.S. Lake Nyong)			2 11.15 155			19 12.12 985		
28	13.65	320	6 10.45 486			17 11.40 185			25 12.06 942		
Approx. Monthly Mean 318			23 10.49 497			Approx. Monthly Mean 188			31 11.83 819		
Normal Mean 1923-1936 300			Approx. Monthly Mean 490			<b>Lake Papiu (Mouth)</b>			Approx. Monthly Mean 944		
<b>Bahr el Jebel (Kilo. 3)</b>			(U.S. Lake Nyong)			2 11.15 155			Normal Mean 1912-1936 864		
(Lake No Gauge)			6 10.45 486			17 11.40 185					
13	13.57	318	23 10.49 497			Approx. Monthly Mean 188					
28	13.65	320	Approx. Monthly Mean 490								
Approx. Monthly Mean 318											
Normal Mean 1923-1936 300											
<b>Bahr el Jebel (Kilo. 3)</b>											
(Lake No Gauge)											
13	13.57	318									
28	13.65	320									
Approx. Monthly Mean 318											
Normal Mean 1923-1936 300											

**Occasional Discharges**

*(Observed by the Irrigation Department)*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> . p.s.
			Reading	Site	
<b>River Sobat Tributaries</b>					
1-5 1937	Khor Fullus	Mouth	10.96	Hil et Dolieb	0
7-5 1937	" "	"	11.31	" "	0
6-5 1937	" Twalor	"	5.54	Nasser	0
3-5 1937	" "	"	6.24	" "	- 2
0-5 1937	" "	"	6.42	" "	0
5-5 1937	" Wakau	"	5.53	" "	0
2-5 1937	" "	"	6.12	" "	- 2
9-5 1937	" "	"	6.41	" "	- 3
1-5 1937	" Agwei	"	12.07	Akobo	0
<b>White Nile Tributaries</b>					
1-5 1937	Khor Attar	Mouth	10.90	Fenikang	0
6-5 1937	" "	"	11.10	" "	0
1-5 1937	" "	"	11.42	" "	0
5-5 1937	" Yergol	"	13.31	Khor Yergol	0
0-5 1937	" "	"	13.42	" "	0
4-5 1937	Outlet on L. Bank	Mouth 200 mts. U.S.R.P. 6	13.30	" "	0
9-5 1937	" "	" " " " 6	13.41	" "	0
4-5 1937	Maya Sinyora	Mouth	13.58	Lake No.	0
9-5 1937	" "	"	13.66	" "	0
<b>Bahr el Ghazâl</b>					
12-5 1937	Ghazal	D.S. Khor Deleib...	13.58	Subite Factory	16
17-5 1937	" "	" " " " " " " "	13.63	" "	2
<b>Bahr el Jebel Tributaries</b>					
10-5 1937	Khor Koda	Mouth	11.90	Mongalla	0
10-5 1937	Khor Luri	"	11.90	" "	0

R. P. BLACK

*Acting Director, Hydrological Service*

# Ministry of Public Works, Egypt.—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JULY, 1937

### The Weather

Apart from two short periods, the weather was abnormally warm and damp, especially during the last week, when the temperature in Cairo twice reached 40°C (104°F). Except at the beginning of the month, the nights in Cairo were warmer than usual throughout the month.

Barometric pressure was everywhere below normal, except in the extreme south of the Sudan. Relative humidity at Alexandria was above normal on all but two days, while in Cairo it was about normal for the month as a whole.

Rainfall in the Sudan was below normal except in the central region where it was considerably in excess.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR JULY 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX. + MIN. 2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1008.6	-0.7	29.6	0.0	23.1	+0.8	26.4	+0.4	0	0
II. Lower Egypt ...	1008.2	-1.2	31.6	-0.5	19.9	+0.3	27.2	-0.1	0	0
III. Middle Egypt ...	1008.2	-0.8	36.2	+0.6	21.6	+0.4	28.9	+0.5	0	0
IV. Upper Egypt ...	1007.6	-0.6	38.8	+0.2	23.2	+0.3	31.0	+0.2	0	—
V. Western Desert ...	1009.0	-0.2	38.7	-0.4	22.8	+0.7	30.8	+0.2	0	—
VI. Red Sea (Egypt) ...	1006.1	-0.1	31.4	+0.2	25.3	+0.4	29.8	+0.3	0	0
* VII. Red Sea (Sudan) ...	1004.8	-0.6	—	—	—	—	—	—	1	-5
VIII. North Sudan ...	1008.2	-0.4	39.2	-0.4	25.1	+0.4	32.2	0.0	23	-18
IX. Central Sudan ...	1010.2	-0.8	34.8	-0.1	22.8	+0.9	28.8	+0.4	183	+61
X. South Sudan ...	1012.6	+0.3	31.4	0.0	21.2	+0.6	26.3	+0.3	123	-38

RAINFALL DATA FOR JULY, 1937

STATION	1937	Diff: from Normal	STATION	1937	Diff: from Normal
	mm.	mm.		mm.	mm.
Juba ...	53	-72	Adis Ababa ...	272	-8
Wau ...	114	-71	Roseires ...	315	+131
Malakal ...	202	+28	Wad Medani ...	239	+117
El Obeid ...	155	+57	Atbara ...	3	-16
El Fasher ...	75	-34	Kassala ...	38	-52
Khartoum (Stack) ...	52	+3	Port Sudan ...	1	-5

\* Port Sudan only.

L. J. SUTTON,  
Director, Meteorological Service.



### State of the River

Lake Albert at Butiaba rose 9 cms. during the month. Its level on August 1st, 1937 was 43 cms. above the normal and 47 cms. above that of the corresponding day, of last year.

The Bahr el Jebel at Juba fluctuated above the normal throughout the month. The levels were continuously above those of last year.

The River Sobat at Nasser rose faster than normally the level which was 28 cms. below normal at the beginning of the month being normal at the end. Throughout the month the levels were below last year's.

The White Nile at Malakal rose steadily, a little slower than normally, for the first 30 days and then began to rise more rapidly. The levels were on the average a few centimetres below the normal and last year's.

The Blue Nile at Roseires rose rapidly and continuously until the 21st on which date the level was more than 2 metres above normal. After this date there was a heavy fall and at the end of the month the level was a little below normal. On the average the levels were about 80 cms. above normal but about 60 cms. below those of last year. At Khartoum the Blue Nile levels reflected those of Roseires, rising rapidly until the 27th and falling thereafter.

The River Atbara at Khashm el Girba fluctuated violently during the month the levels on the average being a little below both the normal and those of last year.

The Main Nile at Kajnarti rose rapidly during the month the level which was 24 cms. below normal at the beginning being 122 cms. above normal at the end.

The differences of the mean levels in July 1937, from those of July 1936 and from the normal 1906-35 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	July 1937 Minus July 1936	July 1937 Minus Normal
	Metres	Metres
Juba ... ..	+ 0.46	+ 0.30
Nasser ... ..	- 0.32	- 0.19*
Malakal ... ..	- 0.12	- 0.03
Roseires ... ..	- 0.57	+ 0.78
Khartoum ... ..	- 0.35	+ 0.28
Khashm el Girba... ..	- 0.23	- 0.14
Kajnarti... ..	- 0.67	- 0.09

\* Nasser normal is for 1922-1935 only

Discharges of the Nile during June, 1937

(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>El Hanadi</b>			<b>Halfa contd.</b>			<b>Hillet Sherif (contd.)</b>			<b>Renk (contd.)</b>		
Kms. D.S. E-sna Barrage (Main Nile)						(Old Sennar Gauge)					
3	72.58	1060	23	1.82	833	16	10.78	569	24	10.67	731
10	72.65	1100	24	1.85	849	19	10.93	544	28	10.73	756
7	72.81	1200	26	1.86	872	22	10.70	524	Approx. Monthly Mean 799		
24	73.03	1330	27	1.86	880	25	10.87	516†	Normal Mean 1928-1936 726		
Approx. Monthly Mean 1190			28	1.87	867	27	11.26	807†	<b>Malakâl (White Nile)</b>		
Normal Mean 1933-1936 1280			29	1.87	875	30	11.57	863†	5	10.79	736
			30	1.89	883	Approx. Monthly Mean 510			10	10.89	737
			Approx. Monthly Mean 697			Normal Mean 1912-1936 603			15	10.95	758
			Normal Mean 1912-1936 746						20	10.98	780
<b>Aswân</b>			<b>River Atbara</b>			<b>Wad el Aies (Blue Nile)</b>			25	11.07	797
Measured by Sluices (Aswân D.S. Gauge)			500 mts. (U.S. Atbara Bridge) (Kilo 3 Gauge)						27	11.08	807
1	85.98	1100	16	9.50	7	6	6.23	377	28	11.08	813
2	86.00	1100	22	9.39	4	8	6.22	370	29	11.10	800
3	86.00	1100	27	9.64	10	11	6.77	361	30	11.10	813
4	86.00	1100	30	9.67	13	13	6.41	330	Approx. Monthly Mean 762		
5	85.99	1100	Approx. Monthly Mean —			15	6.63	336	Normal Mean 1912-1936 752		
6	86.03	1120	Normal Mean 1912-1936 37			17	6.73	342	<b>Hillet Doleib (River Sobât)</b>		
7	86.03	1120	<b>Hassanâb (Main Nile)</b>			19	6.47	338	1	11.79	297
8	86.03	1120	7	10.84	815	21	6.72	352	10	12.07	347
9	86.03	1120	11	10.90	882	23	6.73	344	17	12.13	356
10	86.08	1160	15	10.89	889	25	6.84	365	25	12.25	377
1	86.10	1170	21	10.98	973	27	6.87	376	Approx. Monthly Mean 351		
2	86.10	1170	26	11.16	1120	29	7.03	397	Normal Mean 1912-1936 339		
3	86.10	1170	Approx. Monthly Mean 328			Approx. Monthly Mean 548			Approx. Monthly Mean 351		
4	86.10	1170	Normal Mean 1912-1936 375			Normal Mean 1912-1936 669			Normal Mean 1912-1936 339		
5	86.15	1200	<b>Tamaniât (Main Nile)</b>			<b>Rosaires (Blue Nile)</b>			<b>River Sobât (At Head)</b>		
6	86.21	1240	3	10.38	891	2	12.86	421	(Nasser Gauge)		
7	86.25	1260	7	10.53	926	4	12.64	419	3	7.78	370
8	86.26	1260	11	10.52	910	6	12.77	362	13	7.94	373
9	86.26	1260	17	10.60	967	8	12.75	368	23	8.08	391
10	86.30	1300	22	10.84	1180	10	12.75	369	Approx. Monthly Mean 383		
1	86.36	1330	25	10.84	1110	12	13.11	488	Normal Mean 1929-1936 420		
2	86.36	1330	Approx. Monthly Mean 1010			Approx. Monthly Mean —			<b>River Gila (At Mouth)</b>		
3	86.38	1330	Normal Mean 1912-1936 1110			Normal Mean 1912-1936 669			(Gila Gauge)		
4	86.38	1340	<b>Khartoum (Blue Nile)</b>			<b>Mogren (White Nile)</b>			2	7.68	71
5	86.39	1340	1	10.42	303*	2	10.66	485	12	7.92	77
6	86.39	1340	5	10.85	385	6	10.85	533	22	8.22	78
7	86.39	1340	9	10.80	381	10	10.84	593	Approx. Monthly Mean 76		
8	86.39	1340	15	10.78	353	16	10.90	631	Normal Mean 1929-1935 65		
9	86.39	1340	20	11.06	458	21	11.18	644	<b>River Pibor</b>		
10	86.39	1340	23	11.18	477	24	11.18	669	(U.S. Gila Junction)		
11	86.39	1340	Approx. Monthly Mean 428			Approx. Monthly Mean 610			(Gila Gauge)		
12	86.39	1340	Normal Mean 1912-1936 496			Normal Mean 1912-1936 625			2	7.68	0
13	86.39	1340	<b>Hillet Sherif (Blue Nile)</b>			<b>Renk (White Nile)</b>			12	7.92	0
14	86.39	1340	(Old Sennar Gauge)						22	8.22	0
15	86.39	1340	2	10.78	456	1	10.36	626	Approx. Monthly Mean 1		
16	86.39	1340	5	10.60	390	4	10.41	652	Normal Mean 1929-1935 18		
17	86.39	1340	7	10.59	383	7	10.47	681			
18	86.39	1340	9	10.57	376	11	10.53	687			
19	86.39	1340	12	10.55	368	14	10.58	720			
20	86.39	1340	14	10.52	353	19	10.63	734			
21	86.39	1340									
22	86.39	1340									

\* Measured at 3½ kms. D.S. Soba Gauge.

† Measured at Sennar.

Discharges of the Nile during June, 1937 (contd.)

(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Akobo (River Pibor)</b>			<b>White Nile</b>			<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel (contd.)</b>		
1	12.11	5	(U.S. Barboi Head)			(D.S. Head Cut No. 2)			(U.S. Awai Tail)		
11	12.39	4	(Tonga Gauge)			23	26.59	257	5	10.98	
21	12.68	9	15	11.98	320	Approx. Monthly Mean —			20	11.03	
Approx. Monthly Mean 6			30	12.10	324	Normal Mean 1927-1936 233			Approx. Monthly Mean —		
Normal Mean 1929-1936 13			Approx. Monthly Mean 322			<b>Jebel-Zerâf Cuts</b>			<b>River Atem</b>		
<b>Bahr el Zerâf (Kilo. 3)</b>			(U.S. Kher Yergol)			(Head Cut No. 2)			(Jonglei)		
(Gauge at Mouth)			15	13.54	327	23	26.59	23	(Western Channel)		
16	11.73	112	30	13.63	333	Approx. Monthly Mean —			3	8.63	
Approx. Monthly Mean 111			Approx. Monthly Mean 328			Normal Mean 1927-1936 27			18	8.74	
Normal Mean 1912-1936 124			<b>U.S. Maya Sinyora</b>			(Head Cut No. 1)			Approx. Monthly Mean —		
(D.S. Tail Cut No. 2)			(Lake No. Gauge)			23	11.84	108	(Jonglei)		
(Gauge at Pole 53)			14	13.69	323	Approx. Monthly Mean —			(Eastern Channel)		
23	26.13	115	29	13.75	315	Normal Mean 1927-1936 86			3	8.63	
Approx. Monthly Mean —			Approx. Monthly Mean 322			<b>Bahr el Jebel</b>			18	8.74	
Normal Mean 1927-1936 128			(Lake No)			(U.S. Head Cut No. 1)			Approx. Monthly Mean —		
<b>Jebel-Zerâf Cuts</b>			13	13.69	329	7	11.80	392	<b>Bahr el Jebel</b>		
(Tail Cut No. 2)			28	13.71	331	22	11.84	397	(Kenisa)		
(Gauge at Pole 53)			Approx. Monthly Mean 331			Approx. Monthly Mean —			4	11.01	
21	26.43	22	Normal Mean 1923-1936 312			Normal Mean 1927-1936 359			19	11.10	
Approx. Monthly Mean —			<b>Bahr el Ghazâl</b>			(U.S. Head of Peake's Channel)			Approx. Monthly Mean —		
Normal Mean 1927-1936 28			(At Mouth)			(Ghabet El-Indarab Gauge)			D.S. Khor (U.S.R.F.)		
<b>Bahr el Zerâf</b>			(Suddite Factory Gauge)			7	11.93	485	4	11.48	
(D.S. Tail Cut No. 1)			13	13.68	6	22	11.96	497	19	11.50	
21	28.03	38	28	13.71	10	Approx. Monthly Mean —			Approx. Monthly Mean —		
Approx. Monthly Mean —			Approx. Monthly Mean 8			Normal Mean 1927-1936 359			U.S. Khor (U.S.R.F.)		
Normal Mean 1923-1936 28			Normal Mean 1923-1936 11			<b>Bahr el Jebel (Kilo. 3)</b>			4	11.48	
<b>Jebel-Zerâf Cuts</b>			(Lake No. Gauge)			(D.S. Lake Nyong)			19	11.50	
(Tail Cut No. 1)			13	13.69	317	7	10.52	506	Approx. Monthly Mean —		
21	28.03	110	28	13.74	326	21	10.59	518	(D.S. Lake Papiu)		
Approx. Monthly Mean —			Approx. Monthly Mean 320			Approx. Monthly Mean —			2	11.58	
Normal Mean 1927-1936 86			Normal Mean 1923-1936 301			<b>Bahr el Jebel</b>			17	11.60	
<b>Abu Tong (White Nile)</b>			(Buffalo Cape)			(U.S. Lake Nyong)			Approx. Monthly Mean —		
(Tonga Gauge)			27	11.13	336	7	10.52	500	<b>Lake Papiu (Mou)</b>		
16	11.98	317	Approx. Monthly Mean 331			21	10.59	486	Approx. Monthly Mean —		
Approx. Monthly Mean 310			<b>Bahr el Jebel (Kilo. 3)</b>			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
Normal Mean 1923-1936 296			(Hillet Nuer)			(Ghabet El-Indarab Gauge)			D.S. Khor (U.S.R.F.)		
<b>Tonga Cut (Mouth)</b>			(D.S. Tail of Peake's Channel)			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
15	11.98	— 7	(Head Cut No. 2 Gauge)			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
30	12.10	9	23	26.59	360	Approx. Monthly Mean —			U.S. Khor (U.S.R.F.)		
Approx. Monthly Mean — 4			Approx. Monthly Mean —			Normal Mean 1927-1936 349			U.S. Khor (U.S.R.F.)		
Normal Mean 1927-1936 128			Normal Mean 1927-1936 349			<b>Bahr el Jebel</b>			U.S. Khor (U.S.R.F.)		
<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel (contd.)</b>		
(D.S. Head Cut No. 2)			(U.S. Barboi Head)			(D.S. Head Cut No. 2)			(U.S. Awai Tail)		
23 26.59 257			(Tonga Gauge)			23 26.59 257			5 10.98		
Approx. Monthly Mean —			15 11.98 320			Approx. Monthly Mean —			20 11.03		
Normal Mean 1927-1936 233			30 12.10 324			Normal Mean 1927-1936 233			Approx. Monthly Mean —		
<b>Jebel-Zerâf Cuts</b>			Approx. Monthly Mean 322			<b>Jebel-Zerâf Cuts</b>			<b>River Atem</b>		
(Head Cut No. 2)			(U.S. Kher Yergol)			(Head Cut No. 2)			(Jonglei)		
23 26.59 23			15 13.54 327			23 26.59 23			(Western Channel)		
Approx. Monthly Mean —			30 13.63 333			Approx. Monthly Mean —			3 8.63		
Normal Mean 1927-1936 27			Approx. Monthly Mean 328			Normal Mean 1927-1936 27			18 8.74		
<b>Bahr el Jebel</b>			<b>U.S. Maya Sinyora</b>			<b>Bahr el Jebel</b>			Approx. Monthly Mean —		
(Head Cut No. 1)			(Lake No. Gauge)			(Head Cut No. 1)			(Jonglei)		
23 11.84 108			(Lake No)			23 11.84 108			(Eastern Channel)		
Approx. Monthly Mean —			14 13.69 323			Approx. Monthly Mean —			3 8.63		
Normal Mean 1927-1936 86			29 13.75 315			Normal Mean 1927-1936 86			18 8.74		
<b>Bahr el Jebel</b>			Approx. Monthly Mean 322			<b>Bahr el Jebel</b>			Approx. Monthly Mean —		
(U.S. Head Cut No. 1)			13 13.69 329			(U.S. Head Cut No. 1)			U.S. Khor (U.S.R.F.)		
7 11.80 392			28 13.71 331			7 11.80 392			4 11.01		
22 11.84 397			Approx. Monthly Mean 331			22 11.84 397			19 11.10		
Approx. Monthly Mean —			Normal Mean 1923-1936 312			Approx. Monthly Mean —			Approx. Monthly Mean —		
Normal Mean 1927-1936 359			<b>Bahr el Ghazâl</b>			Normal Mean 1927-1936 359			D.S. Khor (U.S.R.F.)		
<b>Bahr el Jebel</b>			(At Mouth)			<b>Bahr el Jebel</b>			U.S. Khor (U.S.R.F.)		
(U.S. Head Cut No. 1)			(Suddite Factory Gauge)			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
4 11.01			13 13.68 6			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
19 11.10			28 13.71 10			(Ghabet El-Indarab Gauge)			U.S. Khor (U.S.R.F.)		
Approx. Monthly Mean —			Approx. Monthly Mean 8			7 11.93 485			4 11.48		
Normal Mean 1927-1936 359			Normal Mean 1923-1936 11			22 11.96 497			19 11.50		
<b>Bahr el Jebel</b>			<b>Bahr el Jebel (Kilo. 3)</b>			<b>Bahr el Jebel</b>			Approx. Monthly Mean —		
(Kenisa)			(Lake No. Gauge)			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
4 11.01			(D.S. Lake Nyong)			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
19 11.10			7 10.52 506			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
Approx. Monthly Mean —			21 10.59 518			(U.S. Head of Peake's Channel)			U.S. Khor (U.S.R.F.)		
Normal Mean 1927-1936 359			Approx. Monthly Mean —			Approx. Monthly Mean —			U.S. Khor (U.S.R.F.)		
<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>			U.S. Khor (U.S.R.F.)		
(Kenisa)			(D.S. Lake Nyong)			(D.S. Lake Nyong)			U.S. Khor (U.S.R.F.)		
4 11.01			7 10.52 506			7 10.52 500			4 11.48		
19 11.10			21 10.59 518			21 10.59 486			19 11.50		
Approx. Monthly Mean —			Approx. Monthly Mean —			Approx. Monthly Mean —			Approx. Monthly Mean —		
Normal Mean 1927-1936 359			Normal Mean 1927-1936 359			Normal Mean 1927-1936 359			Normal Mean 1927-1936 359		
<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>		
(Kenisa)			(D.S. Lake Nyong)			(D.S. Lake Nyong)			(D.S. Lake Papiu)		
4 11.01			7 10.52 506			7 10.52 500			2 11.58		
19 11.10			21 10.59 518			21 10.59 486			17 11.60		
Approx. Monthly Mean —			Approx. Monthly Mean —			Approx. Monthly Mean —			Approx. Monthly Mean —		
Normal Mean 1927-1936 359			Normal Mean 1927-1936 359			Normal Mean 1927-1936 359			Normal Mean 1927-1936 359		
<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>		
(Kenisa)			(D.S. Lake Nyong)			(D.S. Lake Nyong)			(D.S. Lake Papiu)		
4 11.01			7 10.52 506			7 10.52 500			2 11.58		
19 11.10			21 10.59 518			21 10.59 486			17 11.60		
Approx. Monthly Mean —			Approx. Monthly Mean —			Approx. Monthly Mean —			Approx. Monthly Mean —		
Normal Mean 1927-1936 359			Normal Mean 1927-1936 359			Normal Mean 1927-1936 359			Normal Mean 1927-1936 359		
<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>			<b>Bahr el Jebel</b>		
(Kenisa)			(D.S. Lake Nyong)			(D.S. Lake Nyong)			(D.S. Lake Papiu)		
4 11.01			7 10.52 506			7 10.52 500			2 11.58		
19 11.10			21 10.59 518			21 10.59 486			17 11.60		
Approx. Monthly Mean —			Approx. Monthly Mean —			Approx. Monthly Mean —			Approx. Monthly Mean —		
Normal Mean 1927-1936 359			Normal Mean 1927-1936 359			Normal Mean 1927-1936 359			Normal Mean 1927-1936 359		

**Discharges of the Nile during June, 1937 (contd.).**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel</b>			<b>Mongolla (contd.)</b>		
(U.S.R.P. 114)			(Gigging)			19	11.78	812
2	11.24	517	(Western Channel)			25	11.90	873
17	11.24	532	2	29.09	192	<b>Approx. Monthly Mean</b> 866		
<b>Approx. Monthly Mean</b> 527			11	29.00	186	<b>Normal Mean 1912-1936</b> 840		
(Bor)			<b>Approx. Monthly Mean</b> 196			<b>River Assua</b>		
			<b>Normal Mean 1931-1936</b> 204			7	1.37	25
1	11.25	732	(Gemeiza)			14	1.49	34
16	11.16	699	(Eastern Channel)			<b>Approx. Monthly Mean</b> —		
<b>Approx. Monthly Mean</b> 714			1	428.88	676	<b>Normal Mean 1924-1936</b> 49		
<b>Normal Mean 1912-1936</b> 695			13	428.77	631	<b>Meshra Surroul</b>		
			<b>Approx. Monthly Mean</b> 667			(Bahr el Jebel)		
			<b>Normal Mean 1931-1936</b> 647			8	8.76	726
			(Terrakekka)			9	8.76	735
			12	13.23	827	10	8.76	729
			<b>Approx. Monthly Mean</b> 867			11	8.75	717
			<b>Normal Mean 1931-1936</b> 857			12	8.75	725
			(Mongalla)			13	8.74	708
			7	11.80	833	<b>River Unyama</b>		
			12	11.88	834	8	10.52	0
						13	10.50	0
<b>Khor Unyam Kojie</b>								
(Mouth)								
(Bor Gauge)								
1	11.25	—61						
16	11.16	—50						
<b>Approx. Monthly Mean</b> —55								
<b>Normal Mean 1925-1936</b> —34								



# Ministry of Public Works, Egypt.—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR AUGUST, 1937 .

### The Weather

For the first few days of the month the weather was unusually warm, the temperature in Cairo on the 3rd and 4th reaching 40°C (104°F), which is 5°C above the normal for the time of year. There was another warm spell lasting for a week in the middle of the month. With these exceptions day temperatures departed little from average conditions, but the night temperatures were almost continuously a degree or more above the normal. Humidity also was high; at Alexandria there were only three days in the month and at Cairo only six days for which the humidity failed to exceed the normal value.

For the month as a whole the barometric pressure was everywhere below normal except over the Western Desert, northern Red Sea, and southern Sudan. The mean temperature was everywhere slightly above normal except in the Delta and in northern and central Sudan. Rainfall in the Sudan was about normal.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR AUGUST 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN. 2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1009.6	-0.2	30.6	+0.3	23.9	+1.0	27.2	+0.6	0	0
II. Lower Egypt ...	1009.3	-0.8	34.2	-0.8	20.3	+0.3	27.2	-0.2	0	0
III. Middle Egypt ...	1009.3	-0.3	35.6	+0.5	22.0	+0.5	28.8	+0.5	0	0
IV. Upper Egypt ...	1008.3	-0.2	38.5	+0.4	23.1	0.0	30.8	+0.2	9	0
V. Western Desert ...	1010.0	+0.4	39.1	+0.2	23.0	+1.4	31.0	+0.8	0	0
VI. Red Sea (Egypt) ...	1006.8	+0.3	35.1	+0.5	26.0	+0.6	30.6	+0.6	0	0
*VII. Red Sea (Sudan) ...	1005.4	-0.6	—	—	—	—	—	—	drops	- 4
VIII. North Sudan ...	1008.9	-0.3	38.0	-0.5	25.0	+0.6	31.5	0.0	56	- 7
IX. Central Sudan ...	1010.8	-0.4	32.4	-1.0	21.9	+0.6	27.2	-0.2	153	+ 5
X. South Sudan ...	1012.5	+0.2	31.1	-0.1	21.1	+0.5	26.1	+0.2	169	- 4

RAINFALL DATA FOR AUGUST, 1937

STATION	1937	Diff. from Normal	STATION	1937	Diff. from Normal
	mm.	mm.		mm.	mm.
Juba ...	120	+ 3	Adis Ababa ...	189	-104
Wau ...	205	- 5	Roseires ...	255	+ 37
Malakal ...	182	-10	Wad Medani ...	75	- 72
El Obeid ...	179	+59	Atbara ...	68	+ 28
El Fasher ...	117	-20	Kassala ...	126	+ 3
Khartoum ...	23	-51	Port Sudan ...	Drops	- 4

\* Port Sudan only.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba rose 9 cms. during the month. Its level on September 1, 1937, was 45 cms. above the normal and 47 cms. above that of the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated above both the normal and last year's levels with a tendency to fall during the second half of the month.

The River Sobat at Nasser rose faster than normally, the levels being above both the normal and last year's.

The White Nile at Malakal rose sharply during the first week and at about normal rate afterwards the levels were continuously above both the normal and those of last year.

The Blue Nile at Roseires rose rapidly and fluctuated sharply above the normal reaching a peak level of 21.03 m. on the 21st 175 cms. above normal. On the average the levels were about 75 cms. above normal and about 20 cms. above last year's. At Khartoum the Blue Nile also rose rapidly and after the first week the levels were well above both the normal and last year's.

The River Atbara at Khashm el Girba rose very rapidly at the beginning of the month then fluctuated reaching a peak on the 22nd 110 cms. above normal. On the average the levels were about 20 cms. above normal and about 30 cms. above those of last year.

Except for a short period from the 6th to the 10th the Main Nile at Wadi Halfa rose rapidly and during the second half of the month was well above both the normal and last year's levels.

The differences of the mean levels in August 1937 from those of August 1936 and from the normal 1906-35 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	August 1937 Minus August 1936	August 1937 Minus Normal
	Metres	Metres
Juba ... ..	+ 0.33	+ 0.19
Nasser ... ..	+ 0.17	+ 0.13*
Malakal ... ..	+ 0.22	+ 0.19
Roseires ... ..	+ 0.19	+ 0.76
Khartoum ... ..	+ 0.10	+ 0.33
Khashm el Girba... ..	+ 0.32	+ 0.20
Wadi Halfa ... ..	+ 0.16	+ 0.67

\* Nasser normal is for 1922-1935 only.

**Discharges of the Nile during July, 1937**  
(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>El Hanadi (Main Nile)</b> 2 Kms. D.S. Esna Barrage Observed by the Physical Dept.			<b>Aswân (contd.)</b>			<b>Hassanâb (Main Nile)</b>			<b>Wad el Aies (contd.)</b>		
1	73.05	1310	18	86.62	1496	5	11.81	1300	14	9.42	2460
2	73.05	1350	19	86.69	1560	10	11.86	1520	15	9.86	2800
3	73.05	1330	20	86.76	1620	17	12.00	2170	17	10.06	3040
4	73.05	1320	21	86.91	1740	21	13.38	2960	19	10.22	3390
5	73.06	1310	22	86.96	1740	24	13.87	3640	21	11.84	5100
6	73.10	1350	23	86.97	1740	28	11.51	4350	23	11.80	4920
7	73.12	1350	24	87.02	1770	Approx. Monthly Mean 2470			25	11.35	3950
8	73.16	1400	25	87.09	1850	Normal Mean 1912-1936 2350			27	10.96	3600
8	73.16	1370	26	87.38	2080	<b>Tamaniât (Main Nile)</b>			29	10.85	3480
9	73.16	1370	27	87.81	2110	3	11.14	1340	31	11.24	3830
10	73.16	1380	28	87.94	2550	7	11.33	1590	Approx. Monthly Mean 2770		
11	73.17	1360	29	88.17	2770	13	11.87	1990	Normal Mean 1912-1936 2470		
11	73.17	1390	30	88.64	3240	19	12.84	2410	<b>Mogren (White Nile)</b>		
12	73.18	1410	31	89.01	3640	22	13.21	3510	1	11.45	672
12	73.18	1400	Approx. Monthly Mean 1740			26	11.34	4820	5	11.60	683
13	73.20	1410	Normal Mean 1912-1936 1810			Approx. Monthly Mean 2800			11	12.10	704
13	73.20	1390	<b>Halfa (Main Nile)</b>			Normal Mean 1912-1936 2570			17	12.82	306
14	73.20	1390	1	1.92	914	<b>Khartoum (Blue Nile)</b>			20	13.18	359
15	73.24	1390	3	1.97	932	2	11.50	665	Approx. Monthly Mean 505		
15	73.24	1450	4	2.01	958	6	11.71	874	Normal Mean 1912-1936 577		
16	73.24	1400*	5	2.05	996	12	12.22	1280	<b>Renk (White Nile)</b>		
17	73.30	1460	6	2.11	1010	18	13.20	2730	2	10.78	788
18	73.33	1520	7	2.14	1050	21	13.56	3200	7	10.81	826
19	73.33	1510	8	2.17	1070	25	11.38	4670	11	10.86	819
20	73.36	1510	10	2.21	1110	Approx. Monthly Mean 2450			15	10.92	867
21	73.44	1560	11	2.24	1120	Normal Mean 1912-1936 2060			20	10.96	869
22	73.53	1590*	12	2.28	1180	<b>Sennar (Blue Nile)</b>			25	11.00	859
22	73.59	1650	13	2.36	1210	2	6.33	952	28	11.05	891
23	73.65	1670	14	2.53	1290	4	6.69	1220	Approx. Monthly Mean 848		
24	73.72	1690	15	2.79	1530	6	6.83	1320	Normal Mean 1928-1936 869		
25	73.75	1730	17	2.97	1620	8	6.89	1340	<b>Malakâl (White Nile)</b>		
26	73.82	1770	18	2.96	1630	10	7.13	1550	1	11.12	841
27	74.01	1910	19	2.97	1690	12	7.40	1780	2	11.12	820
28	74.39	2200	20	3.08	1740	14	7.99	2300	3	11.13	802
29	74.68	2420*	21	3.32	2000	17	8.32	2690	4	11.15	805
29	74.68	2380	22	3.55	2240	19	9.15	3330	5	11.16	845
30	74.88	2620	23	3.66	2290	21	9.95	4510	7	11.20	822
31	75.33	3080	24	3.67	2330	24	9.98	4130	8	11.21	844
Approx. Monthly Mean 1620			25	3.68	2330	26	9.59	3780	9	11.22	832
Normal Mean 1933-1936 2020			26	3.79	2440	28	9.38	3620	10	11.24	828
<b>Aswân</b> (Measured by Sluices) (Aswân D.S. Gauge)			27	4.18	2920	31	9.56	3910	11	11.25	852
1	86.39	1340	Approx. Monthly Mean —			Approx. Monthly Mean 2670			12	11.26	850
2	86.39	1340	Normal Mean 1912-1936 1950			Normal Mean 1912-1936 2270			13	11.26	864
3	86.38	1340	<b>River Atbara (Kilo ?)</b>			<b>Wad el Aies (Blue Nile)</b>			14	11.26	838
4	86.40	1340	6	11.10	475	1	7.31	913	15	11.29	845
5	86.44	1370	11	11.28	505	3	7.54	1050	20	11.36	878
6	86.43	1360	18	11.58	742	5	7.84	1250	25	11.42	896
7	86.46	1390	22	11.94	850	7	7.93	1230	Approx. Monthly Mean 870		
8	86.46	1390	25	12.32	828	8	8.02	1310	Normal Mean 1912-1936 917		
9	86.46	1390	29	12.60	923	9	8.16	1400	<b>Hillet Doleib (River Sobât)</b>		
10	86.48	1410	Approx. Monthly Mean 652			10	8.29	1520	2	12.32	384
11	86.47	1420	Normal Mean 1912-1936 656			11	8.45	1630	10	12.45	435
12	86.49	1410				12	8.57	1740	17	12.54	459
13	86.52	1440				13	8.94	2030	25	12.64	498
14	86.58	1470				Approx. Monthly Mean 462			Normal Mean 1912-1936 495		
15	86.58	1470									
16	86.60	1480									
17	86.63	1490									

**Discharges of the Nile during July, 1937 (contd.)**

*(Observed by the Irrigation Department)*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>River Sôbat (At Head)</b> (Nasser Gauge)			<b>Bahr el Zerâf</b> (D.S. Tail Cut No. 1)			<b>Bahr el Ghazâl (At Mouth)</b> (Suddite Factory Gauge)			<b>Bahr el Jebel (contd.)</b> (U.S. Head of Peake's Channel)		
3	8.40	434	10	28.07	99	28	13.78	6	8	12.00	508
13	8.69	490	24	28.13	99	Approx. Monthly Mean		4	22	12.00	506
23	9.23	593	Approx. Monthly Mean		99	Normal Mean 1923-1936		15	Approx. Monthly Mean		506
Approx. Monthly Mean		524	<b>Jebel-Zerâf Cuts</b> (Tail Cut No. 1)			<b>Bahr el Jebel (Kilo. 3)</b> (Lake No Gauge)			<b>(Ghabet EL-Inderab Gaug</b>		
Normal Mean 1929-1936		581	10	28.07	106	13	13.76	327	(D.S. Lake Nyong)		
<b>River Gila (At Mouth)</b> (Gila Gauge)			24	28.13	103	28	13.78	328	8	10.65	538
2	8.49	78	Approx. Monthly Mean		104	Approx. Monthly Mean		327	22	10.67	548
12	8.80	79	Normal Mean 1927-1936		79	Normal Mean 1923-1936		305	Approx. Monthly Mean		542
22	9.15	79	<b>Abu Tong (White Nile)</b> (Tonga Gauge)			<b>(Buffalo Cape)</b>			<b>(U.S. Lake Nyong)</b>		
Approx. Monthly Mean		77	1	12.10	298	13	11.14	328	8	10.65	521
Normal Mean 1929-1936		69	16	12.20	318	27	11.15	328	22	10.67	505
<b>River Pibor</b> (U.S. Gila Junction)			31	12.40	274	Approx. Monthly Mean		329	Approx. Monthly Mean		510
(Gila Gauge)			Approx. Monthly Mean		301	<b>(D.S. Hillet Nuer)</b>			<b>(Awai Tail 3)</b>		
2	8.49	8	Normal Mean 1923-1936		296	11	10.74	330	6	11.56	539
12	8.80	15	<b>Tonga Cut (Mouth)</b>			25	10.79	348	Approx. Monthly Mean		544
22	9.15	19	30	12.37	9	Approx. Monthly Mean		338	<b>(D.S. Awai Tail 1)</b>		
Approx. Monthly Mean		22	Approx. Monthly Mean		1	<b>(D.S. Tail of Peake's Channel)</b>			<b>(U.S. Awai Tail 1)</b>		
Normal Mean 1929-1936		39	<b>White Nile</b> (U.S. Barboi Head)			<b>(Head Cut No. 2 Gauge)</b>			<b>Approx. Monthly Mean</b>		
<b>Akobo (River Pibor)</b>			(Tonga Gauge)			9	26.60	363	585		
1	12.96	4	15	12.19	321	23	26.62	363	<b>(U.S. Awai Tail 1)</b>		
11	13.31	3	30	12.37	306	Approx. Monthly Mean		364	<b>Approx. Monthly Mean</b>		
Approx. Monthly Mean		10	Approx. Monthly Mean		317	Normal Mean 1927-1936		365	306		
Normal Mean 1929-1936		37	<b>(U.S. Khor Yergol)</b>			<b>(D.S. Head Cut No. 2)</b>			<b>Approx. Monthly Mean</b>		
<b>Bahr el Zerâf (Kilo. 3)</b> (Gauge at Mouth)			(U.S. Maya Sinyora)			9	26.60	257	213		
1	11.85	122	(Lake No Gauge)			23	26.62	257	<b>River Atem</b> (Jonglei)		
16	11.97	124	15	13.69	320	Approx. Monthly Mean		257	<b>(Western Channel)</b>		
31	12.24	126	30	13.75	304	Normal Mean 1927-1936		239	135		
Approx. Monthly Mean		124	Approx. Monthly Mean		317	<b>Jebel-Zerâf Cuts</b> (Head Cut No. 2)			<b>Approx. Monthly Mean</b>		
Normal Mean 1912-1936		133	<b>(U.S. Khor Yergol)</b>			9	26.60	20	146		
<b>(D.S. Tail Cut No. 2)</b> (Gauge at Pole 53)			<b>(U.S. Maya Sinyora)</b> (Lake No Gauge)			23	26.62	20	<b>(Eastern Channel)</b>		
10	26.47	125	15	13.69	320	Approx. Monthly Mean		20	294		
24	26.50	123	30	13.75	304	Normal Mean 1927-1936		26	<b>Approx. Monthly Mean</b>		
Approx. Monthly Mean		124	Approx. Monthly Mean		318	<b>Head Cut No. 1)</b>			327		
Normal Mean 1927-1936		140	<b>(U.S. Maya Sinyora)</b> (Lake No Gauge)			9	11.86	106	<b>Bahr el Jebel</b> (Kenisa)		
<b>Jebel-Zerâf Cuts</b> (Tail Cut No. 2)			(Lake No Gauge)			23	11.90	105	292		
(Gauge at Pole 53)			14	13.76	326	Approx. Monthly Mean		105	<b>Approx. Monthly Mean</b>		
10	26.47	18	29	13.78	317	Normal Mean 1927-1936		82	297		
24	26.50	16	Approx. Monthly Mean		321	<b>Bahr el Jebel</b> (U.S. Head Cut No. 1)			<b>D.S. Khor (U.S.R.P. 104)</b>		
Approx. Monthly Mean		17	<b>(Lake No)</b>			8	11.86	406	374		
Normal Mean 1927-1936		25	13	13.76	331	22	11.90	403	<b>Approx. Monthly Mean</b>		
<b>Normal Mean 1927-1936</b>			28	13.78	325	Approx. Monthly Mean		402	378		
25			Approx. Monthly Mean		329	Normal Mean 1927-1936		365	<b>U.S. Khor (U.S.R.P. 104)</b>		
			Normal Mean 1923-1936		319				260		
									<b>Approx. Monthly Mean</b>		
									263		

**Discharges of the Nile during July, 1937 (contd.).**

*Observed by the Irrigation Department*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel (contd.)</b>		
(D.S. Lake Papiu)			(Bor)			(Gemeiza)		
2	11.54	408	1	11.20	724	(Eastern Channel)		
Approx. Monthly Mean 427			Approx. Monthly Mean 746			14	429.16	788
			Normal Mean 1912-1936 718			Approx. Monthly Mean 770		
<b>Lake Papiu (Mouth)</b>			<b>Khor Unyam Kojie</b>			Normal Mean 1931-1936 686		
2	11.54	221	(Mouth)			(Terrakekka)		
Approx. Monthly Mean 261			(Bor Gauge)			13	13.75	1030
<b>Bahr el Jebel</b>			1	11.20	54	Approx. Monthly Mean 1030		
(U.S. Lake Papiu)			Approx. Monthly Mean -60			Normal Mean 1931-1936 943		
2	11.54	182	Normal Mean 1925-1936 -36			(Mongalla)		
Approx. Monthly Mean 161			<b>Bahr el Jebel</b>			1	12.67	1200
(U.S.R.P. 114)			(Gigging)			7	12.34	1080
2	11.25	531	(Western Channel)			13	12.22	993
Approx. Monthly Mean 544			15	29.35	243	19	12.36	1080
			Approx. Monthly Mean 237			25	12.16	987
			Normal Mean 1931-1936 223			Approx. Monthly Mean 1060		
						Normal Mean 1912-1936 907		

**Occasional Discharges**

*(Observed by the Irrigation Department)*

DATE	RIVER	SITE	GAUGE	
			Reading	Site
<b>River Sobât and Tributaries</b>				
5-7-1937	Sobât	D.S. Khor Nyanding Junction ... ..	10.88	Nyanding Mouth
15-7-1937	"	" " " " " " " " " " " "	11.20	" "
25-7-1937	"	" " " " " " " " " " " "	11.53	" "
5-7-1937	Khor Nyanding	Mouth ... ..	10.88	" "
15-7-1937	" "	" " " " " " " " " " " "	11.20	" "
25-7-1937	" "	" " " " " " " " " " " "	11.53	" "
4-7-1937	" Twalor	" " " " " " " " " " " "	8.44	Nasser
14-7-1937	" "	" " " " " " " " " " " "	8.77	" "
24-7-1937	" "	" " " " " " " " " " " "	9.24	" "
3-7-1937	" Wakau	" " " " " " " " " " " "	8.40	" "
13-7-1937	" "	" " " " " " " " " " " "	8.69	" "
23-7-1937	" "	" " " " " " " " " " " "	9.23	" "
2-7-1937	" Macap	" " " " " " " " " " " "	8.37	" "
12-7-1937	" "	" " " " " " " " " " " "	8.65	" "
1-7-1937	" Geni	" " " " " " " " " " " "	12.96	Akobo
11-7-1937	" "	" " " " " " " " " " " "	13.31	" "
1-7-1937	" Akobo	" " " " " " " " " " " "	12.96	" "
11-7-1937	" "	" " " " " " " " " " " "	13.31	" "
10-7-1937	" Agwei	" " " " " " " " " " " "	13.28	" "
31-7-1937	" "	" " " " " " " " " " " "	14.50	" "
<b>White Nile Tributaries</b>				
16-6-1937	Khor Attar	Mouth ... ..	11.68	Fenikang
15-6-1937	" Yergol	" " " " " " " " " " " "	13.54	Khor Yergol
30-6-1937	" "	" " " " " " " " " " " "	13.63	" "
<b>Bahr el Ghazâl</b>				
12-7-1937	Ghazal	D.S. Khor Doleib... ..	13.76	Suddice Factor
27-7-1937	"	" " " " " " " " " " " "	13.78	" "
<b>Bahr el Jebel Tributaries</b>				
16-7-1937	Peake's Channel	About 100 mts. U.S. Tail ... ..	26.62	Head Cut
16-7-1937	"	" 5 Kms. " " " " " " " " " "	26.62	" "
16-7-1937	"	At Head ... ..	12.00	Ghab. El Ind
29-7-1937	Khor Luri	Mouth ... ..	12.65	Mongalk
<b>Spills on the Bahr el Jebel</b>				
25-6-1937	Atem Head No. 1	100 mts. D.S. Head ... ..	11.24	R.P. 11

R. P. BLACK  
Acting Director, Hydrological

September - State of the weather and report of  
the river missing

# Ministry of Public Works, Egypt.—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR OCTOBER, 1937

### The Weather

For the first three weeks the weather was rather warm and generally settled. During the last ten days the weather was cool and unsettled to an unusual degree, with thunderstorms and rainfall of phenomenal severity.

From the 8th to the 14th the temperature was about 5°C above the normal for the time of year, reaching 36°C (97°F) in Cairo. After a few days of cool weather and light showers, the approach of a depression along the Mediterranean brought a return of warm weather on the 18th and 19th. The passage of this depression was followed by a rapid fall in temperature and sharp showers throughout Lower Egypt on the 22nd. At Zagazig 22 mms. were recorded.

On the 26th a trough of low pressure developed over the eastern Mediterranean and northern Red Sea, persisting for some days, during which Egypt was subjected to widespread and severe thunderstorms, particularly on the 27th.

On that day thunder and lightning occurred in the vicinity of Cairo with little break from noon to midnight. At half past six in the evening a very strong cold wind descended from the storm centre northwest of Cairo, causing an abrupt drop of 8°C in the temperature, accompanied by torrential rain. The gale and rain continued for an hour and a half, during which period 50 millimetres fell at Giza. The storm was not so severe in the city, 29 millimetres being registered at the Physical Department, and 14 millimetres in Ezbekia Garden. At Almaza Airport 24 millimetres fell, but only 6 millimetres fell at Heliopolis (Oases Company).

In other parts of Lower Egypt the storms were almost as severe as at Giza. There were two principal storm areas, the first near Cairo, where the storm broke soon after sunset, and the second in Gharbia Province, where the rain fell later at night. The following are some of the largest amounts recorded on the 27th:—Giza 53 millimetres, Rosetta 49, Mansoura 48, Borollos 44, Sakha 40, Tanta and Kafr el Sheikh 39, Hosh Issa and Busseili 38, Damanhur 37, Damietta and Borg el Arab 35.

All these amounts are easily recorded for one day in any October, while at Giza, Rosetta, Mansura, Tanta and many other stations the amounts are the highest recorded in a single day at any time of the year.

The weather remained cool and unsettled for three days, with heavy showers throughout Lower Egypt. As a consequence of the exceptional severity of the storms, traffic and communications were seriously affected.

For the month as a whole the barometric pressure was everywhere below normal, except in the western Desert, and the temperature above normal.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR OCTOBER 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN.-2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1015.0	-1.1	28.5	+0.6	20.8	+1.1	24.6	+0.8	31	+24
II. Lower Egypt ...	1015.1	-1.4	30.2	-0.3	17.3	+1.0	23.8	+0.4	33	+30
III. Middle Egypt ...	1014.9	-1.1	31.0	+1.1	18.4	+0.9	24.7	+1.0	26	+24
IV. Upper Egypt ...	1014.0	-0.7	33.6	+1.0	19.6	+1.	26.6	+1.2	0	—
V. Western Desert ...	1015.6	+0.2	32.9	-0.3	17.5	+0.	25.2	+0.3	0	—
VI. Red Sea (Egypt) ...	1012.9	-0.6	31.5	+1.5	20.9	+0.5	26.2	+1.0	0	0.
*VII. Red Sea (Sudan) ...	1010.9	-0.9	—	—	26.5	+1.9	—	—	19	+ 5
VIII. North Sudan ...	1009.7	-0.6	39.2	+0.1	24.2	+1.5	31.7	+0.8	1	- 3
IX. Central Sudan ...	1009.3	-0.5	37.9	+0.4	21.6	+0.9	29.8	+0.6	11	- 4
X. South Sudan ...	1011.1	+0.3	33.6	-0.4	21.1	+0.3	27.4	-0.0	100	+ 2

\* Port Sudan only.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba rose 11 centimetres during the month. Its level on November 1st 1937 was 43 centimetres above the normal and 41 centimetres above that of the corresponding day of last year.

The Balr el Jebel at Juba rose with small fluctuations the level which was 19 centimetre below normal at the beginning of the month being 21 centimetres above normal at the end.

The River Sobat at Nasser was steady during the month, the levels being a few centimetres above normal and on the average 20 centimetres above last year's.

The White Nile at Malakal rose a little during the month, the levels on the average being about 10 centimetres above normal and about 30 centimetres above those of last year.

The Blue Nile at Roseires fell a little slower than normally the levels being on the average about half a metre below both the normal and last year's. At Khartoum the Blue Nile fell rapidly for the first ten days and at about normal rate for the rest of the month. The levels were on the average more than half a metre below both the normal and last year's.

The River Atbara at Khashm el Girba except for a small flush at the end of the first week fell rather faster than normally. The levels on the average were a few centimetres below both the normal and those of last year.

The Main Nile at Wadi Halfa fell very rapidly during the month. The level which was 67 centimetres above normal at the beginning of the month, being 58 centimetres below normal at the end. On the average the levels were about 40 centimetres below last year.

The differences of the mean levels in October 1937 from those of October 1936 and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	October 1937 Minus October 1936	October 1937 Minus Normal
	Metre	Metre
Juba ... ..	+ 0·18	+ 0·05
Nasser ... ..	+ 0·20	+ 0·09*
Malakal ... ..	+ 0·27	+ 0·11
Roseires ... ..	— 0·56	— 0·54
Khartoum ... ..	— 0·66	— 0·72
Khashm el Girba... ..	— 0·05	— 0·15
Wadi Halfa ... ..	— 0·44	— 0·18

\*normal is for 1922-1935 only.

Discharges of the Nile during September, 1937

(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.		
<b>Esna (Main Nile)</b> (Kilo. 2.8 D.S. Barrage)			<b>Hassanab (Main Nile)</b>			<b>Sennar (Blue Nile)</b>			<b>Renk (White Nile)</b>				
2	79.82	9340	4	16.45	7540	2	11.72	6190	2	11.66	1090		
10	79.81	9620	8	16.28	7260	4	10.98	5070	7	11.69	1100		
17	79.52	9300	15	15.96	6800	6	11.04	5370	12	11.70	1120		
23	79.14	8170	19	15.74	6430	8	10.78	4940	17	11.72	1170		
30	79.20	8230	25	15.88	6900	11	11.00	5200	22	11.72	1120		
Approx. Monthly Mean 8930			Approx. Monthly Mean 6950			13			10.28	4340	27	11.72	1150
Normal Mean 1933-1936 9110			Normal Mean 1912-1936 6670			15			10.63	4860	Approx. Monthly Mean 1130		
						18			11.12	5420	Normal Mean 1928-1936 1120		
						20			11.48	6020			
						22			11.16	5470			
						25			10.41	4520			
						27			9.88	3930			
						29			9.18	3940			
<b>Aswan</b> (Measured by Sluices) Aswan D.S. (Gauge)			<b>Tamaniat (Main Nile)</b>			<b>Gezira Main Canal</b> (Kilo. 1.2)			<b>Malakal (White Nile)</b>				
1	92.64	9570	3	15.89	7960	7	15.96	59	5	12.12	1110		
2	92.61	9520	7	15.57	6830	7	15.96	72	10	12.15	1120		
3	92.65	9480	14	15.30	6830	21	15.41	44	16	12.22	1140		
4	92.63	9370	17	15.18	6190	21	15.42	47	20	12.24	1140		
5	92.58	9260	23	15.42	6870	Approx. Monthly Mean 4940			25	12.26	1170		
6	92.54	9060	27	15.19	6530	Normal Mean 1912-1936 5660			30	12.32	1210		
7	92.50	8870	Approx. Monthly Mean 6860			<b>Wad el Aies (Blue Nile)</b>			Approx. Monthly Mean 1140				
8	92.53	8980	Normal Mean 1912-1936 6800			1	13.20	6390	Normal Mean 1912-1936 1160				
9	92.61	9200				3	12.76	5470	Hillet Doleib (River Sobat)				
10	92.63	9170				5	12.50	5200	1	13.44	661		
11	92.50	8960				7	12.48	4990	10	13.50	677		
12	92.39	8680				9	12.74	5450	17	13.56	701		
13	92.35	8570				11	12.54	5060	25	13.60	740		
14	92.37	8550				13	11.92	4200	Approx. Monthly Mean 702				
15	92.37	8510				15	12.97	5930	Normal Mean 1912-1936 695				
16	92.37	8480				17	12.90	5750	River Sobat (At Head)				
17	92.34	8400				19	13.24	6390	(Nasser Gauge)				
18	92.28	8260				21	12.76	5590	3	10.28	713		
19	92.23	8190				23	12.48	5100	13	10.41	732		
20	92.18	8110				25	11.96	4440	23	10.50	752		
21	92.14	8050				27	11.48	3840	Approx. Monthly Mean 735				
22	92.00	7980				29	10.87	3170	Normal Mean 1929-1936 713				
23	92.02	7910				Approx. Monthly Mean 5070			River Gila (At Mouth)				
24	91.98	7860				Normal Mean 1912-1936 4960			(Gila Gauge)				
25	91.92	7790							2	10.22	33		
26	91.88	7740							12	10.38	0		
27	91.96	7790							22	10.41	0		
28	92.05	7990							Approx. Monthly Mean 7				
29	92.11	7970							Normal Mean 1929-1936 32				
30	92.14	7990							River Pibor				
<b>River Atbara (Kilo. 3)</b>			<b>River Rahad</b> (1 Km. U.S. Abu Haraz Gauge) (Abu Haraz Gauge)			<b>Mogren (White Nile)</b>			<b>River Pibor</b> (U.S. Gila Junction) (Gila Gauge)				
5	14.34	1510	17	9.54	141	1	16.10	587	2	10.22	127		
9	14.38	1890	20	9.85	148	5	15.96	837	12	10.38	182		
16	13.89	1340	24	9.32	146	12	15.69	1030	22	10.41	180		
20	13.86	1360	27	8.55	145	15	15.47	1580	Approx. Monthly Mean 167				
26	13.60	997	Approx. Monthly Mean —			21	15.70	598	Normal Mean 1929-1936 131				
29	13.23	804	Normal Mean 1912-1936 159			25	15.62	1300					
Approx. Monthly Mean 8540			<b>River Dinder (At H. Idris)</b> (Hillet Idris Gauge)			Approx. Monthly Mean 1080							
Normal Mean 1912-1936 7990			16	11.28	332	Normal Mean 1912-1936 1140							
			19	12.20	494								
			23	11.07	305								
			26	10.48	311								

**Discharges of the Nile during September, 1937 (contd.)**

(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Akobo (River Pibor)</b>			<b>White Nile</b>			<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel (contd.)</b>		
1	15.16	88	(U.S. Barboi Head)			(D.S. Tail of Peake's Channel)			(Awai Tail 3)		
11	15.75	154	(Tonga Gauge)			(Head Cut No. 2 Gauge)			6	11.66	576
21	15.72	141	15	12.81	314	10	26.74	390	Approx. Monthly Mean 578		
Approx. Monthly Mean 132			30	12.89	309	23	26.76	379.	(D.S. Awai Tail 1)		
Normal Mean 1929-1936 100			Approx. Monthly Mean 315			Approx. Monthly Mean 385			5   11.16   637		
<b>Bahr el Zeraf (Kilo. 3)</b>			(U.S. Khor Yergol)			Normal Mean 1927-1936 378			20   11.19   629		
(Gauge at Mouth)			(U.S. Maya Sinyora)			(D.S. Head Cut No. 2)			Approx. Monthly Mean 632		
16	12.72	164	(Lake No Gauge)			(U.S. Awai Tail 1)			5   11.16   230		
Approx. Monthly Mean 164			15	14.13	301	5			20   11.19   232		
Normal Mean 1912-1936 163			30	14.19	323	Approx. Monthly Mean 268			Approx. Monthly Mean 230		
(2.3 Kms. D.S.R.P. 53)			Approx. Monthly Mean 312			Normal Mean 1927-1936 250			3   9.15   178		
(Gauge at Pole 53)			(Lake No)			Jebel-Zeraf Cuts			River Atem		
11	26.64	151	Approx. Monthly Mean 307			(Head Cut No. 2)			(Jonglei)		
24	26.66	155	(Lake No)			(Head Cut No. 1)			(Western Channel)		
Approx. Monthly Mean —			13	14.02	325	10			3   9.15   402		
<b>Jebel-Zeraf Cuts</b>			28	14.05	316	23			Approx. Monthly Mean —		
(Tail Cut No. 2)			Approx. Monthly Mean 322			Approx. Monthly Mean 12			(Eastern Channel)		
(Gauge at Pole 53)			Normal Mean 1923-1936 316			Normal Mean 1927-1936 21			3   9.15   402		
11	26.64	9	<b>Bahr el Ghazal (at Mouth)</b>			Bahr el Jebel			<b>Bahr el Jebel</b>		
24	26.66	9	(Suddite Factory Gauge)			(U.S. Head Cut No. 1)			(Kenisa)		
Approx. Monthly Mean 9			13	14.09	58	9			4   11.31   317		
Normal Mean 1927-1936 21			28	14.04	43	23			19   11.28   368		
<b>Bahr el Zeraf</b>			Approx. Monthly Mean 47			Approx. Monthly Mean 374			Approx. Monthly Mean 310		
(D.S. Tail Cut No. 1)			Normal Mean 1923-1936 36			Normal Mean 1927-1936 359			D.S. Khor (U.S.R.P. 104)		
11	28.37	123	<b>Bahr el Jebel (Kilo. 3)</b>			(U.S. Head of Peake's Channel)			4   11.66   399		
24	28.39	119	(Lake No Gauge)			(Ghabet El-Inderab Gauge)			19   11.62   395		
Approx. Monthly Mean 120			13	14.02	275	9			Approx. Monthly Mean 394		
<b>Bahr el Zeraf</b>			28	14.05	279	23			U.S. Khor (U.S.R.P. 104)		
(D.S. Tail Cut No. 1)			Approx. Monthly Mean 179			Approx. Monthly Mean 516			4   11.66   285		
11	28.37	123	Normal Mean 1923-1936 184			Normal Mean 1927-1936 574			19   11.62   276		
24	28.39	76	<b>Bahr el Jebel (Kilo. 3)</b>			(D.S. Lake Nyong)			Approx. Monthly Mean 277		
Approx. Monthly Mean 78			(Buffalo Cape)			(U.S. Lake Nyong)			(D.S. Lake Papiu)		
Normal Mean 1927-1936 68			13	11.22	336	8			2   11.95   481		
<b>Abu Tong (White Nile)</b>			27	11.23	328	22			17   11.85   455		
(Tonga Gauge)			Approx. Monthly Mean 332			Approx. Monthly Mean 488			Approx. Monthly Mean 456		
16	12.81	307	(D.S. Hillet Nuer)			8			2   11.95   481		
Approx. Monthly Mean 314			12	10.87	359	22			17   11.85   455		
Normal Mean 1923-1936 308			25	10.86	352	Approx. Monthly Mean 488			Approx. Monthly Mean 456		
<b>Tonga Cut (Mouth)</b>			Approx. Monthly Mean 356			8			2   11.95   481		
15	12.81	7	(D.S. Hillet Nuer)			22			17   11.85   455		
Approx. Monthly Mean 10			Approx. Monthly Mean 356			Approx. Monthly Mean 488			Approx. Monthly Mean 456		

**Discharges of the Nile during September, 1937 (contd.)**

*(Observed by the Irrigation Department)*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Lake Papiu (Mouth)</b>			<b>Bahr el Jebel</b>			<b>River Assua</b>		
2	11.95	360	(Gigging)			12	1.46	25
17	11.85	321	(Western Channel)			15	1.52	36
Approx. Monthly Mean 322			3	29.39	236	Approx. Monthly Mean —		
<b>Bahr el Jebel</b>			15	29.17	194	Normal Mean 1934-36 103		
(U.S. Lake Papiu)			Approx. Monthly Mean 206			<b>Meshra Surrou</b>		
2	11.95	124	Normal Mean 1931-1936 272			(Bahr el Jebel)		
17	11.85	137	(Gemeiza)			14	8.98	833
Approx. Monthly Mean 139			(Eastern Channel)			16	9.00	849
(U.S.R.P. 114)			2	429.20	780	17	8.99	885
2	11.48	598	14	428.95	683	18	8.99	831
17	11.40	564	Approx. Monthly Mean 696			19	8.98	820
Approx. Monthly Mean 570			Normal Mean 1931-1936 770			20	8.98	846
(Bor)			(Terrakekka)			Approx. Monthly Mean —		
1	11.37	764	1	13.74	1020	Normal Mean 1913-36 790		
16	11.35	754	13	13.37	885	<b>River Unyama</b>		
Approx. Monthly Mean 752			Approx. Monthly Mean 905			13	10.86	2
Normal Mean 1912-1936 768			Normal Mean 1931-1936 1060			11	10.94	19
<b>Khor Unyam Kojie</b>			(Mongalla)			15	10.88	4
(Mouth)			1	12.30	1060	16	10.92	15
(Bor Gauge)			7	12.05	905	17	10.88	6
1	11.37	65	13	11.96	905	18	10.88	4
16	11.35	61	19	11.94	870			
Approx. Monthly Mean —61			25	11.89	855			
Normal Mean 1925-1936 —41			Approx. Monthly Mean 902					
			Normal Mean 1912-1936 1050					

**Occasional Discharges**

*(Observed by the Irrigation Department)*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
			M.		
<b>River Sobat and Tributaries</b>					
17-9-1937	Khor Fullus	Mouth	13.56	H. Doleib	4
5-9-1937	Sobat	D.S. Khor Nyanding Junction	12.63	Nyanding Mouth	683
15-9-1937	"	"	12.74	"	705
25-9-1937	"	"	12.84	"	714
5-9-1937	Khor Nyanding	Mouth	12.63	"	10
15-9-1937	"	"	12.74	"	9
25-9-1937	"	"	12.84	"	7
4-8-1937	" Twabor	"	9.62	Nasser	0
14-8-1937	"	"	9.91	"	0
24-8-1937	"	"	10.11	"	0
4-9-1937	"	"	10.29	"	0
14-9-1937	"	"	10.42	"	0
24-9-1937	"	"	10.53	"	0
3-9-1937	" Wakau	"	10.28	"	-15
13-9-1937	"	"	10.41	"	0
23-9-1937	"	"	10.53	"	20
21-7-1937	" Macap	"	9.18	"	0
2-8-1937	"	"	9.56	"	0
12-8-1937	"	"	9.87	"	0
22-8-1937	"	"	10.09	"	0
2-9-1937	"	"	10.26	"	-10
12-9-1937	"	"	10.40	"	0
22-9-1937	"	"	10.51	"	0
1-9-1937	" Geni	"	15.16	Akobo	0
11-9-1937	"	"	15.75	"	0
21-9-1937	"	"	15.72	"	0
1-9-1937	" Akobo	"	15.16	"	28
11-9-1937	"	"	15.75	"	15
21-9-1937	"	"	15.72	"	19
10-9-1937	" Agwei	"	15.72	"	0
20-9-1937	"	"	15.73	"	0
30-9-1937	"	"	15.55	"	16
22-9-1937	" Pibor	"	9.60	SobatHead	160
22-9-1937	" Baro	U.S. Pibor Junction	9.60	"	516
21-9-1937	" Adura	Tail	—	—	254
21-9-1937	" Baro	U.S. Adura Tail	9.60	SobatHead	485
		100 mts. D.S.R. Baro	—	—	67
		200 " U.S. Baro Junction	—	—	28
		100 " D.S. Adura Head	—	—	670
		100 " " Head	—	—	130
19-9-1937	" Baro	100 " U.S. Adura Head	—	—	793
15-9-1937	"	Gambeila	12.68	Gambeila	806
17-9-1937	"	"	12.80	"	818
18-9-1937	"	"	13.17	"	957
<b>White Nile Tributaries</b>					
16-8-1937	Khor Attar	Mouth	12.62	Fenikang	0
16-9-1937	"	"	12.88	"	0
15-8-1937	" Yergol	"	13.98	KhorYergol	0
15-9-1937	"	"	14.13	"	0
30-9-1937	"	"	14.19	"	0
14-9-1937	Outlet on L. Bank	200 mts. U.S.R.P. 6	14.12	"	2
29-9-1937	"	" " " 6	14.19	"	2
13-8-1937	" Maya Sinyora	Mouth	13.90	Lake No	0
18-9-1937	"	"	14.03	"	0
29-9-1937	"	"	14.05	"	0

**Occasional Discharges (contd.)**

*(Observed by the Irrigation Department)*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> /s.
			Reading	Site	
		<b>Bahr el Ghazâl</b>			
12-9-1937	Ghazâl	D.S. Khor Doleib ... ..	M. 13.99	...	0
27-9-1937	„	„ „ „ ... ..	14.04	„	7
		<b>Bahr el Jebel Tributaries</b>			
29-7-1937	Khor Koda	Mouth ... ..	12.65	Mongalla	0

R. P. BLACK  
*Acting Director, Hydrological Service.*

# Ministry of Public Works, Egypt.—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR NOVEMBER, 1937

### The Weather

The month opened with unsettled weather due to the presence of a depression over Cyprus, and rain fell in the northern Delta. At Mansûra 14 millimetres were recorded. Conditions quickly improved as high pressure was established.

On the 5th a depression appeared off Salum, and easterly winds prevailed, the weather becoming much warmer. On the following day the temperature in Cairo district rose to 34°C. (93° F.), or 7°C. above normal. The depression arrived off Matruh, while a shallow depression crossed Middle Egypt from the west. A severe thunderstorm occurred at Matruh in the afternoon, accompanied by a north-east wind of gale force, and visibility was reduced to less than half a kilometre owing to a sandstorm. The rainfall was very heavy (36 millimetres), and hail-stones of unusual size fell for over half an hour, breaking many window panes. Some of the stones are reported to have been an inch and a half in diameter.

For a week a trough of low pressure extended from the northern Red Sea to the eastern Mediterranean. Winds were mainly northeasterly and the weather remained warm but unsettled, thunderstorms and heavy rain occurring in many localities during that period, particularly in eastern Egypt.

By the 15th a system of high pressure had been established and conditions were again settled, but on the 20th Egypt again came under the influence of low pressure over the eastern Mediterranean, and showery weather prevailed over northern Egypt for some days. Heavy rain fell at Tor on the 21st, amounting to 21 millimetres.

A deep depression appeared over southern Greece on the 26th and gave rise to southerly winds, at times reaching gale force on the coast.

For the month as a whole the barometric pressure was everywhere below normal, except in the central and southern Sudan. The mean temperature was above normal in Egypt and below in the Sudan. In Cairo the maximum temperature fell below normal on only one day, and the minimum temperature on only two nights. Rainfall was slightly below normal on the Mediterranean coast and slightly above normal inland.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR NOVEMBER 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN. 2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1015.6	-1.9	25.1	+0.5	17.8	+1.5	21.4	+1.0	20	- 2
II. Lower Egypt ...	1015.8	-2.0	25.8	-0.8	14.7	+1.4	20.2	+0.3	10	+ 3
III. Middle Egypt ...	1015.8	-1.7	26.6	+0.7	15.3	+1.2	21.0	+1.0	4	+ 1
IV. Upper Egypt ...	1015.6	-1.4	28.8	+0.7	14.9	+1.3	21.8	+1.0	0	—
V. Western Desert ...	1016.5	-1.0	27.7	-0.5	12.9	+1.3	20.3	+0.4	0	—
VI. Red Sea (Egypt) ...	1014.0	-1.9	27.8	+0.7	18.3	+1.8	23.0	+1.2	15	+12
*VII. Red Sea (Sudan) ...	1012.5	-1.0	—	—	24.5	+0.9	—	—	19	-24
VIII. North Sudan ...	1012.4	-0.1	34.3	-0.8	18.0	-0.8	26.2	-0.8	0	0
IX. Central Sudan... ..	1011.0	+0.1	35.5	-0.6	16.6	-0.2	26.0	-0.3	11	+ 9
X. South Sudan ... ..	1011.2	+0.8	35.6	+0.1	19.3	-0.5	27.4	-0.2	21	+ 4

\*Port Sudan only.

L. J. SUTTON,  
Director, Meteorological Service.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba rose 15 centimetres during the month, its level on December 1, 1937 was 53 centimetres above the normal and 58 centimetres above that of the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated above normal. Its levels were above last year's throughout the month.

The River Sobat at Nasser fell at about normal rate. Its levels were almost identical with the normal during the first two weeks but a little above it for the rest of the month. The level which was 15 centimetres above last year's at the beginning of the month being 72 centimetres above it at its end.

The White Nile at Malakal fell a few centimetres during the month. The levels were on the average 10 centimetres above the normal and 25 centimetres above those of last year.

At Roseires the Blue Nile showed small flushes on the 5th, 18th and 30th. The level which was 31 centimetres below normal at the beginning of the month being 30 centimetres above it at its end. At Khartoum the Blue Nile fell slower than normally. The levels were below both the normal and last year's.

The River Atbara at Khashm el Girba fell slower than normally. The levels were below the normal.

The Main Nile at Kajarti fell at normal rate during the first half of the month and slower than normally during the second half. The levels were below both the normal and those of last year.

The differences of the mean levels in November 1937 from those of November 1936 and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	November 1937 Minus November 1936	November 1937 Minus Normal
	Metre	Metre
Juba ... ..	+ 0.48	+ 0.21
Nasser ... ..	+ 0.29	+ 0.04*
Malakal ... ..	+ 0.25	+ 0.10
Roseires ... ..	— 0.08	+ 0.10
Khartoum ... ..	— 0.19	— 0.32
Khashm el Girba... ..	+ 0.01	— 0.11
Wadi Halfa ... ..	— 0.63	— 0.79

\* Nasser normal is for 1922-1935 only.

**Discharges of the Nile during October, 1937**

(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (Main Nile)</b>			<b>Halfa (contd.)</b>			<b>Sennar (contd.)</b>			<b>Renk (White Nile)</b>		
Kilo. 2.8 (U.S. Barrage)			25	4.90	3480	18	7.40	1460	2	11.74	1170
7	78.60	7190	26	4.83	3430	20	7.27	1380	7	11.76	1190
11	77.53	3480	27	4.76	3300	23	7.26	1360	13	11.77	1200
21	76.61	4940	28	4.71	3240	25	7.08	1230	17	11.78	1210
28	75.44	2410	29	4.65	3160	27	6.77	1010	22	11.80	1200
			31	4.47	3080	30	6.56	875	27	11.82	1210
Approx. Monthly Mean 2500			Approx. Monthly Mean —			Approx. Monthly Mean 1660			Approx. Monthly Mean 1200		
Normal Mean 1933-1936 2500			Normal Mean 1912-1936 3680			Normal Mean 1912-1936 2520			Normal Mean 1928-1936 1180		
<b>Aswan</b>			<b>River Atbara (Kilo. 3)</b>			<b>Gezira Main Canal</b>			<b>Malakal (White Nile)</b>		
Measured by Staffs			(Kilo. 1.3)								
Aswan U.S. Gauge			7	12.41	387	10	16.90	113	5	12.34	1240
1	92.00	7550	11	11.88	417	10	16.90	111	10	12.37	1240
2	92.00	7830	17	11.30	243	21	16.50	94	15	12.38	1250
3	91.72	7570	21	11.16	179	24	16.50	94	20	12.43	1240
4	91.87	7600	23	10.89	141	24	16.50	94	25	12.44	1250
5	91.74	7470	31	10.67	102	Approx. Monthly Mean 98			30	12.44	1210
6	91.55	7280	Approx. Monthly Mean 341			Normal Mean 1925-1936 78			Approx. Monthly Mean 1240		
7	91.47	7050	Normal Mean 1912-1936 324			<b>Wad el Aies (Blue Nile)</b>			Normal Mean 1912-1936 1230		
8	91.32	6830	<b>Ressanab (Main Nile)</b>			1	10.47	2780	<b>Willet Doleib (River Sobat)</b>		
9	91.15	6420	6	11.00	1990	3	10.28	2630	6	13.69	763
10	91.00	6180	10	11.04	2080	5	10.62	2440	10	13.73	786
11	90.89	6070	17	13.47	3180	8	10.84	2180	17	13.75	774
12	90.72	5840	20	13.22	2930	10	10.82	2130	25	13.80	769
13	90.52	5610	24	12.91	2720	12	10.61	2100	Approx. Monthly Mean 774		
14	90.32	5390	30	12.50	2230	14	10.47	1970	Normal Mean 1912-1936 758		
15	90.12	5170	Approx. Monthly Mean 3400			16	10.28	1790	<b>River Sobat (At Head)</b>		
16	89.92	4950	Normal Mean 1912-1936 4100			18	10.04	1550	(Nasser Gauge)		
17	89.72	4730	<b>Fumarat (Main Nile)</b>			20	8.90	690	1	10.59	752
18	89.52	4510	4	14.24	410	22	8.84	1580	7	10.63	754
19	89.32	4290	8	13.90	2980	24	8.68	1420	14	10.65	748
20	89.12	4070	3	13.20	2130	26	8.48	1250	Approx. Monthly Mean 745		
21	88.92	3850	8	12.80	1820	28	8.37	1170	Normal Mean 1929-1936 750		
22	88.72	3630	3	12.50	1620	30	8.27	1140	<b>River Gila (At Mouth)</b>		
23	88.52	3410	8	12.20	1420	Approx. Monthly Mean 1800			(Gila Gauge)		
24	88.32	3190	3	11.90	1220	Normal Mean 1912-1936 2100			1	10.38	16
25	88.12	2970	8	11.60	1020	<b>Deribas (Blue Nile)</b>			12	10.37	21
26	87.92	2750	28	11.30	820	15	15.63	1610	19	10.32	30
27	87.72	2530	Approx. Monthly Mean 3480			17	15.42	1540	Approx. Monthly Mean 27		
28	87.52	2310	Normal Mean 1912-1936 3900			19	15.26	1470	Normal Mean 1929-1936 26		
29	87.32	2090	<b>Khartoum (Blue Nile)</b>			21	15.08	1400	<b>River Fabor</b>		
30	87.12	1870	9	11.48	3180	23	14.89	1330	(U.S. Gila Junction)		
31	86.92	1650	7	13.95	2710	26	11.82	1170	(Gila Gauge)		
Approx. Monthly Mean 5400			12	13.50	2280	28	11.70	1140	2	10.38	165
Normal Mean 1912-1936 5400			17	13.20	1990	30	11.59	1110	12	10.37	160
<b>Halfa (Main Nile)</b>			22	12.86	1650	Approx. Monthly Mean 1800			22	10.32	134
9	6.71	6130	27	12.63	1510	Normal Mean 1912-1936 2100			Approx. Monthly Mean 144		
10	6.58	5960	<b>Sennar (Blue Nile)</b>			Normal Mean 1929-1936 142			<b>River Fabor</b>		
11	6.45	5790	2	8.60	2570	(U.S. Gila Junction)			(Gila Gauge)		
12	6.33	5620	4	8.41	2400	6	11.24	1520	2	10.38	165
13	6.17	5300	6	8.18	2100	11	13.69	1290	12	10.37	160
14	6.05	5070	9	8.08	1960	16	13.42	1090	22	10.32	134
15	5.90	4850	11	8.00	1870	21	13.10	1030	Approx. Monthly Mean 144		
17	5.65	4290	13	7.82	1850	26	12.86	1030	Normal Mean 1929-1936 142		
18	5.54	4300	16	7.66	1660	Approx. Monthly Mean 1210			Normal Mean 1912-1936 1100		
19	5.44	4150				Normal Mean 1912-1936 1100					
20	5.35	4090									
21	5.24	3840									
22	5.15	3870									
24	4.97	3510									

\* Observed at 1.15 Kms. U.S. Bridge.

**Discharges of the Nile during October, 1937 ( contd. )**

*(Observed by the Irrigation Department)*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Akobo (River Pibor)</b>			<b>Tonga Cut (at Mouth)</b>			<b>Bahr el Jebel (contd.)</b>			<b>Bahr el Jebel (contd.)</b>		
1	15.53	114	1	12.89	9	(D.S. Hillet Nuer)			(U.S. Lake Nyong)		
11	15.12	104	15	12.93	32	10	10.88	358	7	10.82	470
21	15.21	85	30	12.91	4	25	10.89	354	22	10.84	506
<b>Approx. Monthly Mean</b>		92	<b>Approx. Monthly Mean</b>		18	<b>Approx. Monthly Mean</b>		356	<b>Approx. Monthly Mean</b>		489
<b>Normal Mean 1929-1936</b>		84									
<b>Bahr el Zeraf (Kilo. 3)</b>			<b>White Nile</b>			<b>(D.S. Tail of Peake's Channel)</b>			<b>(D.S. Awai Tail 3)</b>		
(Gauge at Mouth)			(U.S. Barboi Head)			(Head Cut No. 2 Gauge)			(D.S. Awai Tail 3)		
1	12.81	164	(Tonga Gauge)			8	26.76	381	5	11.72	589
16	12.85	154	15	12.93	300	23	26.81	391	20	11.71	583
31	12.87	165	30	12.94	291	<b>Approx. Monthly Mean</b>		386	<b>Approx. Monthly Mean</b>		579
<b>Approx. Monthly Mean</b>		159	<b>Approx. Monthly Mean</b>		300	<b>Normal Mean 1927-1936</b>		583	<b>Approx. Monthly Mean</b>		579
<b>Normal Mean 1912-1936</b>		166									
(D.S. Tail Cut No. 2)			(U.S. Khor Yergol)			(D.S. Head Cut No. 2)			(D.S. Awai Tail 1)		
(2.3 Kms. D.S.R.P. 53)			15			8	26.76	271	4	11.19	628
(Gauge at Pole 53)			30			23	26.81	274	19	11.16	599
9	26.63	151	<b>Approx. Monthly Mean</b>		301	<b>Approx. Monthly Mean</b>		272	<b>Approx. Monthly Mean</b>		603
21	26.71	153				<b>Normal Mean 1927-1936</b>		249			
<b>Approx. Monthly Mean</b>		153									
<b>Normal Mean 1927-1936</b>		151									
<b>Jebel-Zeraf Cuts</b>			(U.S. Maya Sinyora)			<b>Jebel-Zeraf Cuts</b>			(U.S. Awai Tail 1)		
(Tail Cut No. 2)			(Lake No Gauge)			(Head Cut No. 2)			(Kenisa)		
(Gauge at Pole 53)			14			8	26.76	10	3	11.21	306
9	26.63	6	29	14.04	291	23	26.81	4	18	11.10	305
21	26.71	2	<b>Approx. Monthly Mean</b>		298	<b>Approx. Monthly Mean</b>		7	<b>Approx. Monthly Mean</b>		303
<b>Approx. Monthly Mean</b>		4				<b>Normal Mean 1927-1936</b>		20			
<b>Normal Mean 1927-1936</b>		20									
<b>Bahr el Zeraf</b>			(Lake No)			(Head Cut No. 1)			(D.S. Khor)		
(D.S. Tail Cut No. 1)			13			8	12.02	88	(2 Kms. U.S.R.P. 101)		
9	28.40	117	28	14.05	313	23	12.05	91	3	11.57	383
21	28.41	120	<b>Approx. Monthly Mean</b>		313	<b>Approx. Monthly Mean</b>		89	18	11.52	370
<b>Approx. Monthly Mean</b>		118	<b>Normal Mean 1923-1936</b>		315	<b>Normal Mean 1927-1936</b>		74	<b>Approx. Monthly Mean</b>		373
<b>Jebel-Zeraf Cuts</b>			<b>Bahr el Ghazal (at Mouth)</b>			<b>Bahr el Jebel</b>			(U.S. Khor)		
(Tail Cut No. 1)			(Suddite Factory Gauge)			(U.S. Head Cut No. 1)			(2 Kms. U.S.R.P. 104)		
9	28.40	76	13	14.03	29	8	12.02	383	3	11.57	263
21	28.44	75	28	14.03	18	22	12.04	383	18	11.52	259
<b>Approx. Monthly Mean</b>		76	<b>Approx. Monthly Mean</b>		27	<b>Approx. Monthly Mean</b>		382	<b>Approx. Monthly Mean</b>		262
<b>Normal Mean 1927-1936</b>		68	<b>Normal Mean 1923-1936</b>		41	<b>Normal Mean 1927-1936</b>		356			
<b>Abu Tong (White Nile)</b>			<b>Bahr el Jebel (Kilo. 3)</b>			(U.S. Head of Peake's Channel)			(D.S. Lake Papiu)		
(Tonga Gauge)			(Lake No Gauge)			(Ghabet El-Inderab Gauge)			(D.S. Lake Papiu)		
1	12.89	319	13	14.04	281	7	12.09	514	2	11.68	423
16	12.93	298	28	14.05	293	22	12.10	518	17	11.54	397
31	12.94	288	<b>Approx. Monthly Mean</b>		285	<b>Approx. Monthly Mean</b>		515	<b>Approx. Monthly Mean</b>		406
<b>Approx. Monthly Mean</b>		301	<b>Normal Mean 1923-1936</b>		278						
<b>Normal Mean 1923-1936</b>		318									
<b>(Buffalo Cape)</b>						(D.S. Lake Nyong)			<b>Lake Papiu (at Mouth)</b>		
12	11.23	334				7	10.82	576	2	11.68	266
27	11.23	339				22	10.84	588	17	11.54	235
<b>Approx. Monthly Mean</b>		335				<b>Approx. Monthly Mean</b>		580	<b>Approx. Monthly Mean</b>		246

**Discharges of the Nile during October, 1937 (Contd.)**

*(Observed by the Irrigation Department)*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Jebel</b>			<b>Khor Unyam Kojie</b>			<b>Bahr el Jebel (contd.)</b>		
(U.S. Lake Papiu)			(Mouth)			(Gemciza)		
(Eastern Channel)			(Bor Gauge)			(Eastern Channel)		
2	11.68	166	1	11.28	- 55	2	428.85	637
17	11.54	175	16	11.29	- 57	14	428.99	697
Approx. Monthly Mean 171			Approx. Monthly Mean -58			Approx. Monthly Mean 693		
(U.S.R.P. 114)			Normal Mean 1925-1936 -40			Normal Mean 1931-1936 722		
(Terrakekka)			<b>Bahr el Jebel</b>			(Terrakekka)		
2	11.32	512	(Gigging)			1	13.32	853
17	11.28	539	(Western Channel)			13	13.55	945
Approx. Monthly Mean 542			Approx. Monthly Mean 208			Approx. Monthly Mean 953		
(Bor)			Normal Mean 1931-1936 212			Normal Mean 1931-1936 978		
1	11.28	734	3	29.05	193	(Mongalla)		
16	11.28	721	15	29.18	208	1	11.91	851
Approx. Monthly Mean 729			Approx. Monthly Mean 208			7	12.03	911
Normal Mean 1912-1936 749			Normal Mean 1931-1936 212			13	12.11	953
						19	12.59	1120
						25	12.30	1050
						Approx. Monthly Mean 993		
						Normal Mean 1912-1936 1010		

**Occasional Discharges**

*(Observed by the Irrigation Department)*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> /ps
			Reading	Site	
<b>River Sobat and Tributaries</b>					
2-10-1937	Khor Fullas	Mouth	13.69	H. Doleib	17
17-10-1937	"	"	13.75	"	22
5-10-1937	Sobat	D.S. Khor Nyanding Junction	12.95	Nyanding Mouth	726
15-10-1937	"	"	13.02	"	741
25-10-1937	"	"	13.01	"	744
5-10-1937	Khor Nyanding	Mouth	12.95	"	7
15-10-1937	"	"	13.02	"	11
25-10-1937	"	"	13.01	"	0
4-10-1937	" Twaber	"	10.60	Nasser	0
14-10-1937	"	"	10.63	"	0
24-10-1937	"	"	10.65	"	0
3-10-1937	" Wakau	"	10.19	"	20
13-10-1937	"	"	10.63	"	30
23-10-1937	"	"	10.64	"	27
2-10-1937	" Macap	"	10.59	"	0
12-10-1937	"	"	10.63	"	0
22-10-1937	"	"	10.65	"	0
1-10-1937	" Geni	"	15.63	Akobo	0
11-10-1937	"	"	15.42	"	0
21-10-1937	"	"	15.21	"	0
1-10-1937	" Akobo	"	15.53	"	23
11-10-1937	"	"	15.12	"	23
21-10-1937	"	"	15.21	"	25
10-10-1937	" Agwei	"	15.13	"	18
20-10-1937	"	"	15.26	"	16
31-10-1937	"	"	15.01	"	14
<b>Bahr el Zerâf</b>					
8-5-1937	Zerâf	At. 2.3 Kms. D.S.R.P. 53 (New Site)	26.33	Pole 53	118
10-7-1937	"	" " " " " "	26.47	"	133
24-7-1937	"	" " " " " "	26.50	"	134
9-8-1937	"	" " " " " "	26.58	"	154
25-8-1937	"	" " " " " "	26.66	"	154
<b>White Nile Tributaries</b>					
1-10-1937	Khor Attar	Mouth	12.98	Fenikang	0
15-10-1937	" Yergol	"	14.20	Khor Yergol	11
14-10-1937	Outlet on L. Bank	"	14.20	"	6
29-10-1937	"	"	14.04	"	4
<b>Jebel-Zerâf Cuts</b>					
9-7-1937	Jebel-Zerâf Cuts	At. 200 mts D.S. Head Cut No. 1 (New Site)...	11.86	H. C. I	106
23-7-1937	"	" " " " " "	11.90	"	104
8-8-1937	"	" " " " " "	11.95	"	95
24-8-1937	"	" " " " " "	11.99	"	85
23-10-1937	"	" " " " " "	12.05	"	92



# Ministry of Public Works, Egypt.—Physical Department

## REPORT ON THE WEATHER AND STATE OF THE RIVER FOR DECEMBER, 1937

### The Weather

The outstanding feature was the remarkably intense heat wave in the middle of the month.

The month opened with cool westerly winds and showery weather, but settled conditions soon followed. Anticyclonic conditions, with north-easterly winds and mild weather were established on the 9th and lasted until the 13th, on which morning an unusually thick fog extended from Cairo to the coast of the Delta. In Cairo district visibility remained generally below 200 metres until ten o'clock, and was still less than two kilometres at noon. Fog was also general on the following morning but was less dense.

Subsequently a system of depressions traversing the Mediterranean caused southerly winds in Egypt, and a heat wave lasting for a week. The weather became progressively warmer until the 18th, when the temperature in Cairo reached 31°C (88°F). This is 11° C above the normal for the time of year, and is the highest temperature registered in December in Cairo district since records began at Abbassia in 1869. At Giza the temperature reached 33° C (91° F). The following day was almost as warm, and record temperatures for December were established at Alexandria, Port Said, Damietta and some inland stations in the north.

On the 20th the cool sector of a depression which had reached Cyprus extended across Egypt, and the arrival of northwest winds brought a rapid fall in temperature, marking the end of the heat wave. For some days Egypt remained under the influence of low pressure over the Mediterranean, and the temperature continued to fall until the 24th, when the maximum temperature in Cairo was only 17° C (63° F). During this period showery weather prevailed near the Mediterranean coast. From the 26th to 29th the screen temperature fell to freezing point at oases stations, and on the morning of the 28th, the grass minimum temperature at Giza fell to 1° C below freezing point. During the last few days, mild southerly winds prevailed and at Salum a wind velocity of 83 kilometres per hour was recorded on the 29th.

For the month as a whole the barometric pressure was above normal in Egypt and below in the Sudan. Temperature was above normal in all districts. Rainfall in Egypt was much below normal. Unusually heavy rain fell at Port Sudan.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR DECEMBER 1937

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal	1937	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean ...	1019.2	+1.1	21.6	+1.3	12.3	+0.5	17.0	+0.9	20	-15
II. Lower Egypt ...	1019.8	+1.1	22.0	+0.3	8.8	0.0	15.4	+0.2	1	-9
III. Middle Egypt ...	1019.6	+0.6	22.2	+1.3	9.0	-0.7	15.6	+0.3	0	-4
IV. Upper Egypt ...	1019.1	0.0	24.4	+1.5	8.9	0.0	16.6	+0.8	1	—
V. Western Desert ...	1019.7	+0.3	22.5	+0.4	6.3	-0.2	14.4	+0.1	0	—
VI. Red Sea (Egypt) ...	1017.4	0.0	24.5	+1.0	13.7	+1.0	19.1	+1.0	0	-2
*VII. Red Sea (Sudan) ...	1014.2	-1.0	29.1	+0.7	21.8	+0.4	25.4	+0.6	85	+58
VIII. North Sudan ...	1013.4	-1.5	32.3	+1.2	16.6	+2.2	24.4	+1.7	0	0
IX. Central Sudan ...	1010.9	-2.0	34.6	+1.0	15.9	+2.4	25.2	+1.7	0	0
X. South Sudan ...	1010.0	-1.1	36.6	+0.8	19.6	+1.2	28.1	+1.0	4	-3

\*Port Sudan only.

L. J. SUTTON,  
Director, Meteorological Service.

### State of the River

Lake Albert at Butiaba fell 3 cms. during the month. Its level on January 1st 1938 was 53 cms. above the normal and 58 cms. above that of the corresponding day of last year.

The Bahr el Jebel at Juba fell at about normal rate. The levels were above the normal and much above those of last year.

The River Sobat at Nasser fell faster than normally, the level which was 9 cms. above normal at the beginning of the month being 98 cms. below normal at its end. The levels were above last year's throughout.

The White Nile at Malakal fell at about normal rate for the first fortnight and faster thereafter. The levels were above normal for the first three weeks and below afterwards, but above last year's during the whole month.

The Blue Nile at Roseires fell at about normal rate. The levels were a little above normal and a little below last year's. At Khartoum the Blue Nile rose slightly from the 4th to the 7th due to the completion of Sennar Reservoir filling and then fell normally. The levels were on the average a little below normal but a little above last year's.

The River Atbara at Khashm El Girba fell at about normal rate, the levels being a little below normal and practically the same as last year's.

The Main Nile at Kajnarti except for two small rises 4th to 7th and 17th to 20th fell at about normal rate. The levels were about 25 cms. below normal on the average and about the same as those of last year.

The differences of the mean levels in December 1937 from those of December 1936 and from the normal 1906-1935 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	December 1937 Minus December 1936	December 1937 Minus Normal
	Metre	Metre
Juba ... ..	+ 0·41	+ 0·24
Nasser ... ..	+ 0·89	— 0·49*
Malakal ... ..	+ 0·43	+ 0·04
Roseires ... ..	— 0·08	+ 0·24
Khartoum ... ..	+ 0·04	— 0·11
Khashm el Girba... ..	+ 0·04	— 0·06
Kajnarti ... ..	+ 0·03	— 0·26

\* Nasser normal is for 1922-1935 only.

**Discharges of the Nile during November, 1937**  
(Observed by the Irrigation Department)

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Esna (Main Nile)</b> Kilo. 2.8 D.S. Barrage)			<b>Kajnarty (Main Nile)</b>			<b>Sennar (Blue Nile)</b>			<b>Renk (White Nile)</b>		
4	73.05	1160	13	135.47	2210	1	6.46	840	1	11.84	1180
13	72.90	1240	14	135.38	2140	3	6.46	846	6	11.85	1210
18	73.00	1240	15	135.30	2120	6	6.35	782	11	11.86	1220
26	72.93	1220	16	135.23	2080	8	6.46	867	16	11.86	1200
Approx. Monthly Mean 1260			17	135.20	2090	10	6.30	777	21	11.86	1190
Normal Mean 1933-1936 2230			18	135.18	2050	13	6.24	743	26	11.86	1190
			19	135.18	2040	15	6.02	638	30	11.86	1180
			21	135.13	1990	17	5.98	615*	Approx. Monthly Mean 1200		
			22	135.12	2000	21	6.19	710*	Normal Mean 1928-1936 1190		
			23	135.12	2000	23	5.81	515*	<b>Malakal (White Nile)</b>		
			24	135.09	1990	25	5.67	457*	5	12.43	1180
			25	135.03	1920	27	5.72	482*	10	12.42	1170
			26	134.97	1870	29	5.59	427*	15	12.41	1210
			28	134.91	1840	Approx. Monthly Mean 669			20	12.40	1210
			29	134.88	1830	Normal Mean 1912-1936 879			25	12.37	1180
			30	134.81	1810	<b>Gezira Main Canal</b>			30	12.36	1110
			Approx. Monthly Mean 2230			(Kilo. 1.3)			Approx. Monthly Mean 1180		
			Normal Mean 1912-1936 2850			7 16.35 86			Normal Mean 1912-1936 1230		
						7 16.36 85			<b>Hillet Doleib (River Sobat)</b>		
						24 16.24 76			1	13.78	777
						24 16.24 79			10	13.77	778
						Approx. Monthly Mean 82			17	13.75	769
						Normal Mean 1925-1936 66			25	13.70	740
						Approx. Monthly Mean 59			Approx. Monthly Mean 75		
						Normal Mean 1912-1936 66			Normal Mean 1912-1936 75		
						<b>Wad el Aies (Blue Nile)</b>			<b>River Sobat (At Mouth)</b>		
						1 8.33 1050			(Nasser Gauge)		
						<b>Roseires (Blue Nile)</b>			3	10.61	692
						1 14.52 1010			13	10.52	658
						4 14.46 1000			23	10.36	581
						6 14.56 1050			Approx. Monthly Mean 625		
						8 14.53 1030			Normal Mean 1929-1936 654		
						10 14.47 1010			<b>River Gila (At Mouth)</b>		
						12 14.32 921			(Gila Gauge)		
						14 14.21 871			2	10.20	54
						16 14.08 828			12	10.08	72
						18 14.32 940			22	9.90	84
						20 14.16 853			Approx. Monthly Mean 74		
						23 13.92 756			Normal Mean 1929-1936 40		
						25 13.80 725			<b>River Pibor</b>		
						27 13.72 691			(U.S. Gila Junction)		
						29 13.69 679			(Gila Gauge)		
						Approx. Monthly Mean 879			2	10.20	100
						Normal Mean 1912-1936 1010			12	10.08	74
									22	9.90	52
									Approx. Monthly Mean 68		
									Normal Mean 1929-1936 113		
									<b>Akobo (River Pibor)</b>		
									1	14.98	61
									11	14.72	48
									21	14.51	32
									Approx. Monthly Mean 41		
									Normal Mean 1929-1936 55		
<b>Aswan</b> (Measured by Sluices) (Aswan D.S. Gauge)			<b>River Atbara</b> (1-15 Kms. U.S. Bridge)			<b>Hassanab (Main Nile)</b>			<b>Tamaniat (Main Nile)</b>		
1	86.72	1250	6	10.51	79	5	12.26	2060	3	11.94	1950
2	86.54	1160	11	10.40	64	10	12.18	1970	8	11.88	1970
3	86.51	1160	16	10.34	57	15	12.11	1900	13	11.83	1830
4	86.49	1160	21	10.25	47	20	12.00	1750	17	11.72	1830
5	86.48	1160	25	10.16	40	24	11.89	1660	22	11.57	1630
6	86.47	1160	30	10.09	33	29	11.87	1710	27	11.54	1620
7	86.46	1160	Approx. Monthly Mean 59			Approx. Monthly Mean 1870			Approx. Monthly Mean 1800		
8	86.44	1160	Normal Mean 1912-1936 66			Normal Mean 1912-1936 2280			Normal Mean 1912-1936 2200		
9	86.44	1160									
10	86.42	1160									
11	86.40	1150									
12	86.40	1160									
13	86.41	1160									
14	86.41	1160									
15	86.41	1160									
16	86.42	1160									
17	85.42	1160									
18	86.45	1190									
19	86.46	1190									
20	86.46	1190									
21	86.47	1200									
22	86.45	1190									
23	86.47	1220									
24	86.47	1210									
25	86.48	1220									
26	86.64	1330									
27	86.79	1440									
28	86.93	1560									
29	87.01	1620									
30	87.03	1620									
Approx. Monthly Mean 1230											
Normal Mean 1912-1936 2710											
<b>Halfa (Main Nile)</b>			<b>Khartoum (Blue Nile)</b>			<b>Mogren (White Nile)</b>					
1	4.37	3060	2	12.26	977	1	12.50	958			
2	4.28	2890	7	12.16	855	6	12.38	1010			
3	4.21	2850	12	12.12	864	11	12.34	970			
3	4.21	2850	16	12.02	779	15	12.25	1000			
4	4.16	2720	21	11.85	637	20	12.09	979			
4	4.16	2760	26	11.82	613	25	12.09	986			
5	4.10	2670	Approx. Monthly Mean 763			Approx. Monthly Mean 987					
5	4.10	2630	Normal Mean 1912-1936 977			Normal Mean 1912-1936 1210					
7	4.02	2510									
8	3.97	2450									
9	3.92	2440									
10	3.86	2390									

\* Measured at Hillet Sherif.

**Discharges of the Nile during November, 1937 (contd.)**

*(Observed by the Irrigation Department)*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Zeraf (Kilo. 3)</b>			(U.S. Khor Yergol)			<b>Peake's Channel</b>			<b>Bahr el Jebel (contd.)</b>		
(Gauge at Mouth)			15	14.20	293	<b>(at Tail)</b>			(D.S. Lake Nyong)		
16	12.85	157	30	14.18	310	(Head Cut No. 2 Gauge)			7	10.77	564
<b>Approx. Monthly Mean 159</b>			<b>Approx. Monthly Mean 298</b>			9	26.81	120	22	10.76	559
<b>Normal Mean 1912-1936 164</b>			(U.S. Maya Sinyora)			19	26.79	119	<b>Approx. Monthly Mean 562</b>		
(D.S. Tail Cut No. 2)			(Lake No Gauge)			<b>Approx. Monthly Mean 119</b>			(U.S. Lake Nyong)		
(2.3 Kms. D.S.R.P. 53)			14	14.03	294	<b>Bahr el Jebel</b>			7	10.77	485
(Gauge at Pole 53)			29	14.03	299	(D.S. Head Cut No. 2)			22	10.76	476
9	26.72	163	<b>Approx. Monthly Mean 295</b>			8	26.81	271	<b>Approx. Monthly Mean 481</b>		
24	26.69	146	(Lake No)			23	26.78	264	(D.S. Awai Tail 3)		
<b>Approx. Monthly Mean 154</b>			13	14.03	307	<b>Approx. Monthly Mean 267</b>			5	11.65	561
<b>Normal Mean 1926-1936 154</b>			28	14.03	305	<b>Normal Mean 1926-1936 242</b>			20	11.64	554
<b>Jebel-Zeraf Cuts</b>			<b>Approx. Monthly Mean 307</b>			<b>Jebel-Zeraf Cuts</b>			<b>Approx. Monthly Mean 559</b>		
(Tail Cut No. 2)			<b>Normal Mean 1923-1936 305</b>			(Head Cut No. 2)			(D.S. Awai Tail 1)		
(Gauge at Pole 53)			<b>Bahr el Ghazal (at Mouth)</b>			8	26.81	4	4	11.11	578
9	26.72	1	(Suddite Factory Gauge)			23	26.78	7	20	11.12	610
24	26.69	3	13	14.02	11	<b>Approx. Monthly Mean 6</b>			<b>Approx. Monthly Mean 598</b>		
<b>Approx. Monthly Mean 2</b>			28	14.01	10	<b>Normal Mean 1926-1936 20</b>			(U.S. Awai Tail 1)		
<b>Normal Mean 1926-1936 20</b>			<b>Approx. Monthly Mean 11</b>			(Head Cut No. 1)			4	11.11	211
<b>Bahr el Zeraf</b>			<b>Normal Mean 1923-1936 22</b>			(200 mts. D.S. the Head)			20	11.12	218
(D.S. Tail Cut No. 1)			<b>Bahr el Jebel (Kilo. 3)</b>			<b>Approx. Monthly Mean 87</b>			<b>Approx. Monthly Mean 216</b>		
9	28.43	116	(Lake No Gauge)			<b>Normal Mean 1926-1936 75</b>			(Kenisa)		
24	28.39	120	13	14.03	290	<b>Bahr el Jebel</b>			3	11.07	304
<b>Approx. Monthly Mean 118</b>			28	14.03	294	(U.S. Head Cut No. 1)			19	11.12	313
<b>Jebel-Zeraf Cuts</b>			<b>Approx. Monthly Mean 291</b>			(200 mts. D.S. the Head)			<b>Approx. Monthly Mean 312</b>		
(Tail Cut No. 1)			<b>Normal Mean 1923-1936 286</b>			<b>Approx. Monthly Mean 88</b>			(D.S. Khor)		
9	28.43	78	(Buffalo Cape)			<b>Normal Mean 1926-1936 75</b>			(2 Kms. U.S.R.P. 104)		
24	28.39	82	12	11.24	327	<b>Bahr el Jebel</b>			3	11.63	372
<b>Approx. Monthly Mean 80</b>			27	11.23	323	(U.S. Head Cut No. 1)			19	11.67	383
<b>Normal Mean 1926-1936 70</b>			<b>Approx. Monthly Mean 327</b>			<b>Approx. Monthly Mean 378</b>			<b>Approx. Monthly Mean 380</b>		
<b>Abu Tong (White Nile)</b>			(D.S. Hillet Nuer)			<b>Normal Mean 1926-1936 353</b>			(U.S. Khor)		
(Tonga Gauge)			10	10.89	368	<b>Peake's Channel</b>			(2 Kms. U.S.R.P. 104)		
16	12.92	288	25	10.87	372	<b>(at Head)</b>			3	11.63	266
<b>Approx. Monthly Mean 290</b>			<b>Approx. Monthly Mean 368</b>			(Peake's Track No. 1 Gauge)			19	11.67	268
<b>Normal Mean 1923-1936 297</b>			<b>Normal Mean 1923-1936 286</b>			<b>Approx. Monthly Mean 74</b>			<b>Approx. Monthly Mean 269</b>		
<b>Tonga Cut (at Mouth)</b>			(D.S. Tail of Peake's Channel)			<b>Bahr el Jebel</b>			(D.S. Lake Papiu)		
15	12.92	7	(Head Cut No. 2 Gauge)			(U.S. Head of Peake's Channel)			2	11.60	405
30	12.89	8	8	26.81	397	(Ghabet el Inderab Gauge)			18	11.70	436
<b>Approx. Monthly Mean 7</b>			23	26.78	394	<b>Approx. Monthly Mean 508</b>			<b>Approx. Monthly Mean 428</b>		
<b>White Nile</b>			<b>Approx. Monthly Mean 394</b>			<b>Normal Mean 1927-1936 381</b>			<b>Lake Papiu (at Mouth)</b>		
(U.S. Barboi Head)			<b>Normal Mean 1927-1936 381</b>			<b>Approx. Monthly Mean 509</b>			2	11.60	246
(Tonga Gauge)			<b>Bahr el Jebel</b>			<b>Normal Mean 1926-1936 353</b>			18	11.70	286
15	12.92	284	(U.S. Head of Peake's Channel)			<b>Approx. Monthly Mean 509</b>			<b>Approx. Monthly Mean 276</b>		
30	12.89	296	(Ghabet el Inderab Gauge)			<b>Normal Mean 1926-1936 353</b>					
<b>Approx. Monthly Mean 289</b>			<b>Approx. Monthly Mean 509</b>			<b>Normal Mean 1926-1936 353</b>					

**Discharges of the Nile during November, 1937 (Contd.)**

*(Observed by the Irrigation Department)*

Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.	Day of Month	Gauge Reading m.	Disch. m <sup>3</sup> . p.s.
<b>Bahr el Jebel</b>			<b>Khor Unyam Kojie</b>			<b>Bahr el Jebel (contd.).</b>		
(U.S. Lake Papiu)			(Mouth)			(Gemeiza)		
(Bor Gauge)			(Eastern Channel)			(Terrakekka)		
2	11.60	170	1	11.36	- 65	2	429.14	737
18	11.70	159	16	11.38	- 65	14	429.17	752
Approx. Monthly Mean 163			Approx. Monthly Mean -65			Approx. Monthly Mean 747		
(U.S.R.P. 114)			Normal Mean 1925-1936 -38			Normal Mean 1931-1936 660		
2	11.31	547	<b>Bahr el Jebel</b>			(Mongalla)		
18	11.37	569	(Gigging)			1	13.75	1040
Approx. Monthly Mean 562			(Western Channel)			13	13.89	1060
(Bor)			3	29.30	226	Approx. Monthly Mean 1040		
1	11.36	741	15	29.34	231	Normal Mean 1931-1936 864		
16	11.38	766	Approx. Monthly Mean 231			19	12.26	1030
Approx. Monthly Mean 759			Normal Mean 1931-1936 207			25	12.32	1060
Normal Mean 1912-1936 727			Approx. Monthly Mean 231			Approx. Monthly Mean 1060		
			Normal Mean 1931-1936 207			Normal Mean 1912-1936 927		

**Occasional Discharges**

*(Observed by the Irrigation Department)*

DATE	RIVER	SITE	GAUGE	
			Reading	Site
			M.	
<b>River Sobat and Tributaries</b>				
1-11-1937	Khor Fullus	Mouth	13.78	H.Doleib
17-11-1937	"	"	13.75	"
5-11-1937	Sobat	D.S. Khor Nyanding Junction	12.98	Nyanding
15-11-1937	"	"	12.91	Mouth
25-11-1937	"	"	12.75	"
5-11-1937	Khor Nyanding	Mouth	12.98	"
15-11-1937	"	"	12.91	"
15-11-1937	"	"	12.75	"
4-11-1937	Khor Tawalor	"	10.61	Nasser
14-11-1937	"	"	10.51	"
24-11-1937	"	"	10.33	"
3-11-1937	Khor Wakau	"	10.61	"
13-11-1937	"	"	10.52	"
23-11-1937	"	"	10.34	"
2-11-1937	Khor Macap	"	10.62	"
12-11-1937	"	"	10.53	"
22-11-1937	"	"	10.38	"
1-11-1937	Khor Geni	"	14.98	Akobo
11-11-1937	"	"	14.72	"
21-11-1937	"	"	14.51	"
1-11-1937	Akobo	"	14.98	"
11-11-1937	"	"	14.72	"
21-11-1937	"	"	14.51	"
10-11-1937	Agwei	"	14.76	"
20-11-1937	"	"	14.51	"
30-11-1937	"	"	14.26	"
<b>White Nile Tributaries</b>				
16-11-1937	Khor Attar	Mouth	13.04	Fenikang
15-11-1937	Khor Yergol	"	14.20	Khor yergol
30-11-1937	"	"	14.18	"
14-11-1937	Outlet on L. Bank	"	14.20	"
29-11-1937	"	"	14.18	"
14-11-1937	Maya Sinyora	"	14.03	Lake No
29-11-1937	"	"	14.03	"
<b>Bahr el Ghazal and Tributaries</b>				
5-11-1937	Ghazal	U.S. Bahr el Arab	13.59	Ghabet el Arab
5-11-1937	"	At Ghabet el Arab Gauge	13.59	"
6-11-1937	"	U.S. Khor Nyang	13.58	"
6-11-1937	Khor Nyang	Mouth	—	—
6-11-1937	Ghazal	U.S. Khor Jakaji	13.58	Ghabet el Arab
6-11-1937	Khor Jakaji	Mouth	—	—
6-11-1937	Ghazal	U.S. Khor Ardeiba	13.92	Yoynyang
7-11-1937	Khor Ardeiba	Mouth	—	—
7-11-1937	Khor Ngol	"	—	—
7-11-1937	Ghazal	U.S. Khor Charmaich	13.92	Yoynyang
7-11-1937	Khor Charmaich	Mouth	—	—
7-11-1937	Ghazal	U.S. Khor Loich	13.92	Yoynyang
8-11-1937	Khor Loich	Mouth	—	—
8-11-1937	Ghazal	U.S. Khor Doleib	14.03	Suddite Factory
8-11-1937	Khor Doleib	Mouth	—	—
8-11-1937	Ghazal	4 Kms. U.S. Suddite Gauge	—	—
8-11-1937	"	Mouth	14.03	Suddite Factory

**Occasional Discharges (contd.)**

(Observed by the Irrigation Department)

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p. s.
			Reading	Site	
<b>Bahr el Jebel and Tributaries</b>					
27-10-1937	Jebel	At R.P. No. 4 ... ..	11.23	B. Cape	320
13- 7-1937	"	About 2 kilos D.S. Pole No. 17... ..	11.14	"	321
26- 7-1937	"	" " " " 17... ..	11.15	"	333
12- 8-1937	"	" " " " 17... ..	11.19	"	338
28- 8-1937	"	" " " " 17... ..	11.20	"	337
13- 9-1937	"	" " " " 17... ..	11.22	"	340
26- 9-1937	"	" " " " 17... ..	11.23	"	327
11-10-1937	"	" " " " 17... ..	11.23	"	339
26-10-1937	"	" " " " 17... ..	11.25	"	342
11-11-1937	"	" " " " 17... ..	11.24	"	329
26-11-1937	"	" " " " 17... ..	11.23	"	340
25-10-1937	"	D.S.R.P. 45 (Fell's Channel) ... ..	10.89	H. Nuer	387
25-10-1937	Peake's Channel	U.S. R.P. 45 (Fell's Channel) ... ..	10.89	"	257
19-11-1937	Jebel	About 5 Kms. U.S. Tail ... ..	26.79	H.C.No.2	123
23- 8-1937	"	50 mts. D.S. R.P. No. 113 ... ..	11.81	L. Papiu	262
23- 8-1937	"	" " " " 116 ... ..	11.40	R.P. 114	589
24- 8-1937	"	150 mts. U.S. R.P. No. 117 ... ..	11.40	"	597
24- 8-1937	"	100 mts. D.S. R.P. No. 120 ... ..	11.36	Bor	811
<b>Spills on the Bahr el Jebel</b>					
<i>(Negative discharges denote Spills Out)</i>					
23- 8-1937	Spill in on L. Bank	400 mts. D.S. Lake Papiu ... ..	11.81	L. Papiu	...
25- 8-1937	"	50 " " R.P. 121 ... ..	11.36	Bor	180
22- 9-1937	"	400 " " Lake Papiu ... ..	11.85	L. Papiu	27
24- 9-1937	"	50 " " R.P. 121 ... ..	11.31	Bor	103
17-10-1937	"	400 " " Lake Papiu ... ..	11.51	L. Papiu	18
16-10-1937	"	50 " " R.P. 121 ... ..	11.28	Bor	76
24-11-1937	"	400 " " Lake Papiu ... ..	11.73	L. Papiu	22
25-11-1937	"	50 " " R.P. 121 ... ..	11.39	Bor	123
23- 8-1937	Spill out on L. Bank	No. 1 between R.P. 112 & 113 ... ..	11.81	L. Papiu	-2*
23- 8-1937	"	" 2 " " 112 & 113 ... ..	11.81	"	-2*
23- 8-1937	"	" 3 " " 112 & 113 ... ..	11.81	"	-2*
23- 8-1937	"	" 4 & 5 " " 112 & 113 ... ..	11.81	"	-3*
23- 8-1937	"	" 6 & 7 " " 112 & 113 ... ..	11.81	L. Papiu	-3*
23- 8-1937	"	" 8 " " 112 & 113 ... ..	11.81	"	-3*
23- 8-1937	"	" 9 " " 112 & 113 ... ..	11.81	"	-9
23- 8-1937	"	" 1 " " 113 & 114 ... ..	11.81	"	-1*
23- 8-1937	"	" 1 " " 115 & 116 ... ..	11.10	R.P. 114	-10
24- 8-1937	"	" 1 " " 117 & 118 ... ..	11.40	"	-1*
24- 8-1937	"	" 2 " " 117 & 118 ... ..	11.40	"	-5
24- 8-1937	"	" 3 " " 117 & 118 ... ..	11.40	"	-2*
24- 8-1937	"	" 4 " " 117 & 118 ... ..	11.40	"	0*
24- 8-1937	"	" 5 " " 117 & 118 ... ..	11.40	"	-4*
24- 8-1937	"	" 6 " " 117 & 118 ... ..	11.40	"	-1*
24- 8-1937	"	" 7 " " 117 & 118 ... ..	11.40	"	-1*
24- 8-1937	"	" 8 " " 117 & 118 ... ..	11.40	"	-1*
24- 8-1937	"	" 9 " " 117 & 118 ... ..	11.40	"	-1*
24- 8-1937	"	" 1 " " 118 & 119 ... ..	11.40	"	-3*
24- 8-1937	"	" 1 " " 119 & 120 ... ..	11.36	Bor	-3*
24- 8-1937	"	" 1 " " 120 & 121 ... ..	11.36	"	-1*
24- 8-1937	"	" 2 " " 120 & 121 ... ..	11.36	"	-1*
25- 8-1937	"	" 3 " " 120 & 121 ... ..	11.36	"	-3
25- 8-1937	"	" 1 " " 122 & 123 ... ..	11.36	"	-15
25- 8-1937	"	" 1 " " 123 & 124 ... ..	11.36	"	-9*

Occasional Discharges (contd.)

(Observed by the Irrigation Department)

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
<b>Spills on the Bahr el Jebel (contd.)</b>					
25-8-1937	Spill out on L. Bank	No. 2 between R.P. 123 & 124 ... ..	11.36	Bor	- 5*
25-8-1937	"	" 1 " " 124 & 125 ... ..	11.37	"	- 1*
26-8-1937	"	" 2 " " 124 & 125 ... ..	11.37	"	- 1*
26-8-1937	"	" 3 " " 124 & 125 ... ..	11.37	"	- 5*
26-8-1937	"	" 5 " " 124 & 125 ... ..	11.37	"	- 4*
26-8-1937	"	" 6 " " 124 & 125 ... ..	11.37	"	- 6*
26-8-1937	"	" 7 " " 124 & 125 ... ..	11.37	"	- 2*
26-8-1937	"	" 1 " " 125 & 126 ... ..	11.37	"	- 1*
26-8-1937	"	" 2 " " 125 & 126 ... ..	11.37	"	- 15
26-8-1937	"	" 1 " " 126 & 127 ... ..	11.37	"	- 1*
26-8-1937	"	" 2 " " 126 & 127 ... ..	11.37	"	- 1*
26-8-1937	"	" 3 " " 126 & 127 ... ..	11.37	"	- 5*
27-8-1937	"	" 1 " " 127 & 128 ... ..	21.32	Malek	- 7
27-8-1937	"	" 1 " " 128 & 129 ... ..	21.32	"	- 10*
27-8-1937	"	" 2 " " 128 & 129 ... ..	21.32	"	- 6*
27-8-1937	"	" 3 " " 128 & 129 ... ..	21.32	"	- 1*
27-8-1937	"	" 4 " " 128 & 129 ... ..	21.32	"	- 2*
27-8-1937	"	" 5 " " 128 & 129 ... ..	21.32	"	- 2*
27-8-1937	"	" 6 " " 128 & 129 ... ..	21.32	"	- 2*
27-8-1937	"	" 1 " " 129 & 130 ... ..	21.32	"	- 2*
27-8-1937	"	" 2 " " 129 & 130 ... ..	21.32	"	- 2*
27-8-1937	"	" 3 " " 129 & 130 ... ..	21.32	"	- 2*
27-8-1937	"	" 4 " " 129 & 130 ... ..	21.32	"	- 16*
27-8-1937	"	" 5 " " 129 & 130 ... ..	21.32	"	- 1*
27-8-1937	"	" 6 " " 129 & 130 ... ..	21.32	"	- 1*
28-8-1937	"	" 1 " " 130 & Tombe ... ..	12.25	Tombe	- 1*
28-8-1937	"	" 2 " " 130 & " ... ..	12.25	"	- 4*
28-8-1937	"	" 3 " " 130 & " ... ..	12.25	"	- 13*
28-8-1937	"	" 4 " " 130 & " ... ..	12.25	"	- 9*
28-8-1937	"	" 5 " " 130 & " ... ..	12.25	"	- 1*
28-8-1937	"	" 6 " " 130 & " ... ..	12.25	"	- 8*
28-8-1937	"	" 7 " " 130 & " ... ..	12.25	"	- 2*
28-8-1937	"	" 8 " " 130 & " ... ..	12.25	"	- 5*
28-8-1937	"	" 9 " " 130 & " ... ..	12.25	"	- 6*
28-8-1937	"	" 10 " " 130 & " ... ..	12.25	"	- 19
23-9-1937	"	" 1 " " 112 & 113 ... ..	—	—	- 2*
23-9-1937	"	" 2 " " 112 & 113 ... ..	—	—	- 2*
23-9-1937	"	" 3 " " 112 & 113 ... ..	—	—	- 2*
23-9-1937	"	" 1 " " 112 & 113 ... ..	—	—	- 5*
23-9-1937	"	" 5 " " 112 & 113 ... ..	—	—	- 2*
23-9-1937	"	" 6 " " 112 & 113 ... ..	—	—	- 3*
23-9-1937	"	" 7 " " 112 & 113 ... ..	—	—	- 11*
23-9-1937	"	" 1 " " 115 & 116 ... ..	11.38	R.P.114	- 5*
23-9-1937	"	" 1 " " 117 & 118 ... ..	11.38	"	- 2*
23-9-1937	"	" 2 " " 117 & 118 ... ..	11.38	"	- 10*
23-9-1937	"	" 3 " " 117 & 118 ... ..	11.38	"	- 2*
23-9-1937	"	" 4 " " 117 & 118 ... ..	11.38	"	- 3*
23-9-1937	"	" 5 " " 117 & 118 ... ..	11.38	"	- 2*
23-9-1937	"	" 6 " " 117 & 118 ... ..	11.38	"	- 1*
23-9-1937	"	" 7 " " 117 & 118 ... ..	11.38	"	- 2*
24-9-1937	"	" 1 " " 118 & 119 ... ..	—	—	- 2*
24-9-1937	"	" 1 " " 119 & 120 ... ..	—	—	- 2*
24-9-1937	"	" 1 " " 120 & 121 ... ..	11.31	Bor	- 5*
24-9-1937	"	" 1 " " 122 & 123 ... ..	11.31	"	- 13
24-9-1937	"	" 1 " " 123 & 124 ... ..	11.31	"	- 2*
24-9-1937	"	" 2 " " 123 & 124 ... ..	11.31	"	- 2*
24-9-1937	"	" 3 " " 123 & 124 ... ..	11.31	"	- 3*
25-9-1937	"	" 1 " " 124 & 125 ... ..	11.31	"	0*

**Occasional Discharges (contd.)**

*(Observed by the Irrigation Department)*

DATE	RIVER	SITE	GAUGE		Disch. m <sup>3</sup> per.
			Reading	Site	
<b>Spills on the Bahr el Jebel (contd.)</b>					
25-9-1937	Spill Out on L. Bank	No. 2 between R.P. 124 & 125	11.31	Bor	0*
25-9-1937	"	" 3 " " 124 & 125	11.31	"	0*
25-9-1937	"	" 5 " " 124 & 125	11.31	"	3*
25-9-1937	"	" 6 " " 124 & 125	11.31	"	1*
25-9-1937	"	" 7 " " 124 & 125	11.31	"	4*
25-9-1937	"	" 1 " " 125 & 126	11.31	"	8
25-9-1937	"	" 1 " " 126 & 127	21.03	Malek	1*
25-9-1937	"	" 2 " " 126 & 127	21.03	"	2*
25-9-1937	"	" 1 " " 127 & 128	21.03	"	1*
25-9-1937	"	" 1 " " 128 & 129	21.03	"	4*
25-9-1937	"	" 2 " " 128 & 129	21.03	"	3*
25-9-1937	"	" 1 " " 129 & 130	21.03	"	9
26-9-1937	"	" 1 " " 130 & Tombe	—	—	1*
26-9-1937	"	" 2 " " 130 " "	—	—	2*
26-9-1937	"	" 3 " " 130 " "	—	—	1*
26-9-1937	"	" 4 " " 130 " "	—	—	2*
26-9-1937	"	" 5 " " 130 " "	11.89	Tombe	1*
26-9-1937	"	" 6 " " 130 " "	11.89	"	1*
26-9-1937	"	" 7 " " 130 " "	11.89	"	15
22-10-1937	"	" 1 " " 112 & 113	11.54	L: Papiu	3*
22-10-1937	"	" 2 " " 112 & 113	11.54	"	2*
22-10-1937	"	" 3 " " 112 & 113	11.54	"	2*
22-10-1937	"	" 4 " " 112 & 113	11.54	"	7
22-10-1937	"	" 5 " " 112 & 113	11.54	"	—
22-10-1937	"	" 6 " " 112 & 113	11.54	"	—
22-10-1937	"	" 7 " " 112 & 113	11.54	"	1*
22-10-1937	"	" 8 " " 112 & 113	11.54	"	1*
23-10-1937	"	" 1 " " 115 & 116	—	—	13
23-10-1937	"	" 1 " " 117 & 118	—	—	5*
23-10-1937	"	" 2 " " 117 & 118	—	—	2*
23-10-1937	"	" 3 " " 117 & 118	—	—	1*
23-10-1937	"	" 4 & 5 " " 117 & 118	—	—	18
23-10-1937	"	" 6 " " 117 & 118	—	—	2*
23-10-1937	"	" 7 " " 117 & 118	—	—	0*
23-10-1937	"	" 8 " " 117 & 118	—	—	5*
23-10-1937	"	" 9 " " 117 & 118	—	—	3*
23-10-1937	"	" 10 " " 117 & 118	—	—	1*
23-10-1937	"	" 11 " " 117 & 118	—	—	2*
23-10-1937	"	" 1 " " 118 & 119	—	—	2*
23-10-1937	"	" 1 " " 119 & 120	—	—	2*
23-10-1937	"	" 1 " " 120 & 121	—	—	1*
23-10-1937	"	" 2 " " 120 & 121	—	—	7*
24-10-1937	"	" 1 " " 122 & 123	11.33	Bor	12
24-10-1937	"	" 1 " " 123 & 124	11.33	"	2*
24-10-1937	"	" 2 " " 123 & 124	11.33	"	2*
24-10-1937	"	" 3 " " 123 & 124	11.33	"	2*
24-10-1937	"	" 4 " " 123 & 124	11.33	"	0*
24-10-1937	"	" 5 " " 123 & 124	11.33	"	1*
24-10-1937	"	" 6 " " 123 & 124	11.33	"	4*
25-10-1937	"	" 1 " " 124 & 125	11.34	"	0*
25-10-1937	"	" 2 " " 124 & 125	11.34	"	1*
25-10-1937	"	" 3 " " 124 & 125	11.34	"	0*
25-10-1937	"	" 4 " " 124 & 125	11.34	"	0*
25-10-1937	"	" 6 " " 124 & 125	11.34	"	4*
25-10-1937	"	" 7 " " 124 & 125	11.34	"	2*
25-10-1937	"	" 8 " " 124 & 125	11.34	"	6*
25-10-1937	"	" 1 " " 125 & 126	11.34	"	11
25-10-1937	"	" 1 " " 126 & 127	21.16	Malek	1*

**Occasional Discharges (contd.)**

*Observed by the Irrigation Department.*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> . p.s.		
			Reading	Site			
<b>Spills on the Bahr el Jebel (contd.)</b>							
25-10-1937	Spill out on L. Bank	No. 2 between R.P.	126 & 127	...	21.16	Malek	0
25-10-1937	"	" 3	126 & 127	...	21.16	"	2
25-10-1937	"	" 1	127 & 128	...	21.16	"	2
25-10-1937	"	" 1	128 & 129	...	21.16	"	5
25-10-1937	"	" 2	128 & 129	...	21.16	"	4
25-10-1937	"	" 3	128 & 129	...	21.16	"	1
26-10-1937	"	" 1	129 & 130	...	—	—	0
26-10-1937	"	" 2	129 & 130	...	—	—	12
26-10-1937	"	" 1	130 & 131	...	—	—	1
26-10-1937	"	" 2	130 & 131	...	—	—	1
26-10-1937	"	" 1	131 & Tombe	...	—	—	4
26-10-1937	"	" 2	131 & "	...	—	—	2
26-10-1937	"	" 3	131 & "	...	12.05	Tombe	4
26-10-1937	"	" 4	131 & "	...	12.05	"	2
26-10-1937	"	" 5	131 & "	...	12.05	"	2
26-10-1937	"	" 6	131 & "	...	12.05	"	17
24-11-1937	"	" 1	112 & 113	...	11.73	Lake Papiu	2
24-11-1937	"	" 2	112 & 113	...	11.73	"	1
24-11-1937	"	" 3	112 & 113	...	11.73	"	2
24-11-1937	"	" 4	112 & 113	...	11.73	"	5
24-11-1937	"	" 5	112 & 113	...	11.73	"	3
24-11-1937	"	" 6	112 & 113	...	11.73	"	2
24-11-1937	"	" 7	112 & 113	...	11.73	"	10
24-11-1937	"	" 8	112 & 113	...	11.73	"	2
24-11-1937	"	" 1	115 & 116	...	11.38	R.P. 114	8
25-11-1937	"	" 1	117 & 118	...	—	—	6
25-11-1937	"	" 2	117 & 118	...	—	—	8
25-11-1937	"	" 3	117 & 118	...	—	—	2
25-11-1937	"	" 4	117 & 118	...	—	—	6
25-11-1937	"	" 5	117 & 118	...	—	—	2
25-11-1937	"	" 6	117 & 118	...	—	—	1
25-11-1937	"	" 7	117 & 118	...	—	—	1
25-11-1937	"	" 1	118 & 119	...	—	—	2
25-11-1937	"	" 1	119 & 120	...	—	—	1
25-11-1937	"	" 1	120 & 121	...	—	—	5
26-11-1937	"	" 1	122 & 123	...	11.39	Bor	14
26-11-1937	"	" 1	123 & 124	...	11.39	"	2
26-11-1937	"	" 2	123 & 124	...	11.39	"	2
26-11-1937	"	" 3	123 & 124	...	11.39	"	1
26-11-1937	"	" 4	123 & 124	...	11.39	"	4
26-11-1937	"	" 1	124 & 125	...	11.39	"	1
26-11-1937	"	" 2	124 & 125	...	11.39	"	1
26-11-1937	"	" 3	124 & 125	...	11.39	"	4
26-11-1937	"	" 4	124 & 125	...	11.39	"	1
26-11-1937	"	" 5	124 & 125	...	11.39	"	2
26-11-1937	"	" 1	125 & 126	...	11.39	"	10
26-11-1937	"	" 1	126 & 127	...	—	—	1
27-11-1937	"	" 2	126 & 127	...	21.26	Malek	3
27-11-1937	"	" 1	127 & 128	...	21.26	"	2
27-11-1937	"	" 1	128 & 129	...	21.26	"	4
27-11-1937	"	" 2	128 & 129	...	21.26	"	4
27-11-1937	"	" 3	128 & 129	...	21.26	"	0
27-11-1937	"	" 4	128 & 129	...	21.26	"	2
27-11-1937	"	" 1	129 & 130	...	21.26	"	0
27-11-1937	"	" 2	129 & 130	...	21.26	"	13
27-11-1937	"	" 1	130 & 131	...	21.26	"	1

**Ocasional Discharges (contd.)**

*Observed by the Irrigation Departement*

DATE	RIVER	SITE	GAUGE		DISCH. m <sup>3</sup> p.s.
			Reading	Site	
<b>Spills on the Bahr el Jebel (contd.)</b>					
27-11-1937	Spill out on L. Bank	2 130 & 131 ... ..	21.26	Malek	— 2*
27-11-1937	"	1 131 & Tombe ... ..	21.26	"	— 5*
27-11-1937	"	2 131 & " ... ..	21.26	"	— 2*
27-11-1937	"	3 131 & " ... ..	12.12	Tombe	— 4*
28-11-1937	"	4 131 & " ... ..	12.12	"	— 2*
28-11-1937	"	5 131 & " ... ..	12.12	"	— 2*
28-11-1937	"	6 131 & " ... ..	12.12	"	— 15
10-8-1937	Spill out on R. Bank (Atem Head No. 1)	100 metres D.S. Head ... ..	11.38	R.P. 114	— 38
24-9-1937	"	" ... ..	11.38	"	— 36
23-10-1937	"	" ... ..	11.29	"	— 33
25-11-1937	"	" ... ..	11.38	"	— 36

\* These discharges were obtained from one current meter observation of the Surface Velocity in the middle of the stream.

**Y. M. SIMAIKA**

*Director, Hydrological Service.*